



City of Salford.

---

# ANNUAL REPORT

OF THE

Medical Officer of Health

FOR THE YEAR

1933.

BY

H. OSBORNE,

MEDICAL OFFICER OF HEALTH.



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MEDICAL OFFICER OF HEALTH.

# Members of the Health Committee, 1933-34.

Alderman DESQUESNES, *Chairman*.

Alderman JACKSON, J.P., *Deputy-Chairman*.

Councillor E. A. HARDY, J.P., ( <i>Mayor</i> ).	Councillor HAMPSON.
Alderman J. F. EMERY, J.P., ( <i>Deputy-Mayor</i> ).	„ HAYNES.
„ CONNOLLY, J.P.	„ KITCHIN.
Councillor BINNS.	„ MOULSON.
„ BUCK.	„ SANDS, J.P.
„ CUTTIFORD.	„ WEBB, J.A., J.P.
„ FEARNEHOUGH.	„ WEBB, L.
	„ WORSLEY.

Also co-opted for Housing Purposes :—

Mrs. ROBERTS.....	Representing the Pendleton Co-operative Industrial Society Limited.
Mrs. CUDDEFORD, J.P. ....	A member of the Maternity and Child Welfare Sub-Committee.
Miss D. L. PILKINGTON .....	Representing the Manchester and Salford Women Citizens' Association.

The following members were co-opted upon the undermentioned Sub-Committees, viz. :—

Tuberculosis Sub-Committee—Mr. W. BRICE and Mr. O. A. BUCK, representing the Salford Insurance Committee.

Maternity and Child Welfare Sub-Committee—Mrs. SROUT, representing the Ladies' Public Health Society; Mrs. SYDNEY FRANKENBURG, representing the Manchester and Salford Women Citizens' Association; and Mrs. CUDDEFORD, J. P., representing the Women's Guild of the Pendleton Co-operative Industrial Society Limited.



## STAFF.

### Public Health Department.

Medical Officer of Health.....	H. OSBORNE, M.D., M.R.C.S., D.P.H., etc.
Administrative Tuberculosis Officer.....	C. H. TATTERSALL, M.R.C.S., L.R.C.P., D.P.H.
Honorary Consulting Medical Officer.....	E. N. RAMSBOTTOM, M.A., B.Sc., M.D. (Lond.), D.P.H., etc.
Clinical Tuberculosis Officers.....	J. V. WHITAKER, M.B., Ch.B., D.T.M. & H., D.P.H.
Maternity and Child Welfare Medical Officers.....	Miss M. SPROUL, M.B., Ch.B., D.P.H. Miss K. D. ARNSBY, M.B., B.S. Miss J. C. KING, M.B., Ch.B., D.P.H.
Consulting Obstetrician.....	W. R. ADDIS, M.C., M.B., Ch.B.
City Pathologist.....	G. J. CRAWFORD, B.Sc., M.D., M.R.C.P. (Lond.), D.P.H.
Assistant Pathologist.....	Miss L. STENT, M.D., M.R.C.S., L.R.C.P.
Venereal Diseases Medical Officer.....	E. TYTLER BURKE, D.S.O., M.B., Ch.B.
Deputy Venereal Diseases Medical Officer.....	R. MARINKOVITCH, M.D.
Asst. Venereal Diseases Medical Officers.....	F. M. BLADES, M.B., Ch.B. W. E. ORCHARD, M.B., Ch.B., D.P.H.
<b>*HOPE HOSPITAL.</b>	
Medical Superintendent.....	J. D. GILES, O.B.E., M.D.
Deputy Medical Superintendent and Resident Surgical Officer.....	G. BROWN, M.B., Ch.B., F.R.C.S.
Anæsthetist, Lecturer and Radiologist.....	J. GHOSH, F.R.C.S., D.P.H.
Visiting Physician.....	G. J. LANGLEY, M.D. (Lond.), M.B., M.R.C.P.
Visiting Specialist in Children's Diseases.....	Miss CATHERINE CHISHOLM, B.A., M.D.
Visiting Gyna-cologist.....	JOHN W. A. HUNTER, M.B., Ch.B.
Consulting Orthopaedic Surgeon.....	S. M. MILNER, M.A., M.B.
Resident Medical Officer.....	W. MACKAY, M.D., F.R.F.P.S.
Resident Obstetric Officer.....	R. W. LUNTON, B.Sc., M.D., M.R.C.P.
<b>LADYWELL SANATORIUM.</b>	
Medical Superintendent.....	W. EDGE, M.R.C.S., L.R.C.P., D.P.H.
Assistant Resident Medical Officers.....	T. ROSS, M.B., Ch.B. (to 7th November, 1933). J. C. PRESTON, M.R.C.S., L.R.C.P., D.P.H., (from 8th November, 1933).
Junior Resident Medical Officers.....	M. ALLAN, M.B., Ch.B. (to 7th September, 1933). G. H. C. WALMSLEY, M.B., Ch.B., D.P.H. (from 11th December, 1933).
<b>NAB TOP SANATORIUM.</b>	
Medical Superintendent.....	H. M. FLEMING, B.A., M.D., D.P.H.
Veterinary Inspector.....	A. ALEXANDER, M.R.C.V.S., D.V.S.M.
Public Analyst.....	H. E. MONK, B.Sc., F.I.C.
Chief Administrative Assistant.....	E. WOOD.
Chief Sanitary Inspector.....	J. P. CARGILL, M.R.S.I.

\* Poor Law Hospital administered by Health Committee subject to general direction and control of Public Assistance Committee.

## TO THE HEALTH COMMITTEE OF THE CITY OF SALFORD.

Gentlemen,

I have the honour to present my report upon the health of the City and the work of the Public Health Department during the year 1933.

### Death Rate.

The death rate for the year was 13.9 per thousand of the population, as compared with 13.2 in 1932. The increase cannot be ascribed to any particular cause of death, but is due to a general increase spread over a considerable number of causes. It should be borne in mind, in addition, that the death rate for 1932 was exceptionally low.

### Birth Rate.

The birth rate for 1933 was 15.3 per thousand, this being almost identical with the rate of 15.4 for 1932. There was again a considerable drop in the actual number of births, which fell to 3,316. I again reproduce a table, showing the number of births and reductions as compared with the preceding year in respect of each year since 1922.

Year.	No. of Births.	Reduction as compared with preceding year.
1922.....	5,416	577
1923.....	5,047	369
1924.....	4,745	302
1925.....	4,597	148
1926.....	4,511	86
1927.....	4,301	210
1928.....	4,073	227
1929.....	3,903	170
1930.....	3,787	116
1931.....	3,479	308
1932.....	3,401	78
1933.....	3,316	85

### Maternity and Child Welfare.

#### INFANTILE MORTALITY.

The infantile mortality rate for 1933 fell to 80, this being the lowest infantile mortality rate on record for the City. It cannot, unfortunately, be accepted as likely to prove to be a permanent index of the health of infants in this City. It is, nevertheless, a big step in the right direction, and although fluctuations are bound to occur from year to year, the mere fact that such an improvement

in any particular year has been brought about is itself a reflection of the improvements in the care of infants which have been effected of recent years. The reduction in mortality is particularly gratifying when one considers that the general economic condition of the vast majority of the people of Salford is, to say the least of it, not as high as in many other towns.

An important event of the year 1933 was the opening in December of a new Clinic in Police Street, Pendleton, in premises formerly occupied by the Ministry of Labour. The opening of this new Clinic necessitated the closing of three of the existing Centres in John Street, Woodbine Street and Enys Street, with consequent centralisation at Police Street. Any slight disadvantage which may have resulted from the replacement of these Centres by the new Clinic has been amply compensated for by the vast improvement in the premises and the facilities provided.

### **Re-Housing.**

This important subject is dealt with in detail on pages 39 and 40 of this volume. The year 1933 saw the completion of the preliminary work undertaken during 1932 in connection with the Greengate Area and the Chapel Street Areas Nos. 1, 2, 3 and 4. Under these schemes 180 new houses were erected on the Wheeler's Field and Gerald Road Estates, the whole of which were ready for occupation by April, 1933. The completion of the schemes involved the transference of 664 persons from the Clearance Areas to the new property, 403 of whom were transferred to houses on Wheeler's Field, 261 to houses on the Gerald Road Estate, and 11 to Littleton Road. The demolition of the houses comprised in the Clearance Areas, which numbered 159, was completed by the end of the year.

As stated in my last Report, only the fringe of the re-housing problem has been touched up to the present, and I am of opinion that now that a definite programme has been decided upon, it should be pressed forward with all possible speed.

### **Survey of Medical Services.**

A survey of the medical services provided by the Corporation was carried out by representatives of the Ministry of Health during the course of the year. A letter upon this subject was received by the Corporation in December, 1933, but no action thereon was actually taken during the year under review.

In conclusion I wish to express my thanks for the consideration which the Health Committee has extended to me during the past year, and my appreciation of the willing co-operation of the Staff of the Department.

I have the honour to be, Gentlemen,

Your obedient Servant,

H. OSBORNE,

Medical Officer of Health.

# CONTENTS.

	PAGE
INTRODUCTION.....	4

## SECTION I.—MORTALITY STATISTICS.

### STATISTICAL SUMMARY—

Population.....		
Density.....		
Births.....		
Deaths.....		
Infant Mortality.....		
Women dying in consequence of Childbirth.....		

9

### TABLES—

M 1. Deaths detailed in Wards.....	10
M 2. Causes of, and ages at, Death.....	12
M 3. Births and Deaths in Wards of Legitimate and Illegitimate Infants under one year old.....	13
M 4. Births, Deaths under one year, and Infant Mortality Rates 1915 to 1933.....	14
M 5. Birth Rates, and Rates of Mortality from Special Diseases, from the year 1878.....	15

## SECTION II.—GENERAL WORK OF THE HEALTH DEPARTMENT.

Sanitary Circumstances and Sanitary Administration of the District.....	17
Public Cleansing.....	20
Common Lodging Houses.....	21
Houses Sub-let in Lodgings.....	22
Seamen's Lodging Houses.....	23
Workshops.....	24
Factories, Workshops, Laundries, Workplaces, and Homework.....	24 to 28
Smoke Nuisance.....	28
Manure Receptacles, and Removal of Manure and other Offensive Matter.....	29
Canal Boats Acts.....	29
Drainage Inspection.....	30
Motor Wheel Ambulance and Disinfecting Station.....	30
Motor Ambulance Services.....	32
Propaganda.....	33
Sanitary Conveniences.....	34
Housing Conditions.....	37
Re-housing.....	39
Houses Erected and Demolished.....	40
Certificates as to Families not living under Sanitary Conditions.....	40
TABLES—Register of Work Done, G.4.....	41
Rats and Mice, Destruction of.....	44
Hospital Services.....	44
Poor Law Relief.....	45
Local Government Act, 1929.....	46
Vaccination.....	47

## SECTION IIa.—ATMOSPHERIC POLLUTION..... 50

## SECTION III. INFECTIOUS DISEASES.

Prevalence of and Control over Infectious Diseases.....	55
---	----

### TABLES—

I. 1. Cases of Infectious Disease Notified and Removed.....	56
I. 2. Number of Cases of Infectious Disease Notified since the year 1883.....	57

	PAGE
Tuberculosis.....	59
"    X-Ray Examinations.....	61
"    Artificial Pneumothorax, Treatment by.....	62
"    Dispensary Treatment.....	64
"    Pleurisy, Primary Tuberculosis.....	64
"    Non-pulmonary Tuberculosis.....	65
"    Children, Examination and Treatment of.....	65
"    Institutional Treatment.....	67

## TABLES—

1. Summary of Work Done.....	69
2. Periods elapsing between Notifications and Deaths.....	70
3. Phthisis and Non-Pulmonary Cases Notified in Age Groups and Sex.....	70
4. Phthisis Cases, Occupations of Cases Notified.....	71
Non-Pulmonary Cases—Classification of New Cases Notified.....	71
Report <i>re</i> Nab Top Sanatorium, 1933.....	72
Ladywell Sanatorium. Admissions of Tuberculosis Cases, 1933 ..	76
Ladywell Sanatorium :—	
Report for 1933 .....	77
Diphtheria Immunisation Report.....	98

**SECTION IIIa.—VENEREAL DISEASES.**

Municipal Clinic.....	100
-----------------------	-----

**SECTION IV.—VETERINARY INSPECTOR'S DEPARTMENT.**

## DISEASES OF ANIMALS ACTS—

Anthrax Order of 1928.....	123
Importation of Dogs and Cats Order, 1928.....	123
Tuberculosis Order, 1925.....	123
Importation of Canadian Cattle Order, 1933.....	124
Transit of Animals Order, 1927.....	124
Foot and Mouth Disease Order, 1928.....	125
Swine Fever Order, 1908.....	125
Fever Infected Area Order, 1933.....	125
Lancashire Service, Regulations of, Movement of Swine Order, 1922.....	126
Milk Supply to Institutions.....	126
Milk (Special Designations) Order, 1923.....	128
Bacteriological Examination of Milk Samples .....	128
Milk Bottles.....	130
Tuberculous Milk.....	131
Inspection of Dairies.....	133
Inspection of Meat.....	134
Slaughter-houses.....	135
Retail Meat Shops.....	136
Food-Preparing Premises.....	137
Bakehouses.....	137
Offensive Trades.....	137

**SECTION V.—PATHOLOGICAL LABORATORY REPORT..... 138****SECTION VI. CITY ANALYST'S DEPARTMENT.**

Samples under the Sale of Food and Drugs Act.....	141
Borax.....	148
Baking Powder.....	149
White Precipitate Ointment.....	149
Sausage.....	149
Whiskey .....	149
Miscellaneous Samples.....	150
Atmospheric Pollution.....	151



## SECTION VII.—MATERNITY AND CHILD WELFARE AND SUPERVISION OF MIDWIVES.

	PAGE
Staff.....	155
Work of the Health Visitors.....	155
Maternity and Child Welfare Clinics and Centres .....	157
Ante-natal Clinics.....	158
Massage.....	160
Artificial Light Clinic.....	160
Assisted Milk Scheme.....	161
Sewing Classes.....	161
Dinners for Expectant and Nursing Mothers.....	161
Diphtheria Immunisation.....	161
Home Helps.....	162
Children Act, 1908.....	162
Admissions to Hope Hospital.....	163
Nursery Classes and Nursery School.....	163
Maternity Home and Babies' Hospital.....	165
Supervision of Midwives.....	166
Stillbirths.....	168
Infant Deaths, Investigation of.....	168
Artificial Feeding of Infants.....	168
Puerperal Fever and Puerperal Pyrexia.....	168
Ophthalmia Neonatorum.....	170
Penphigus Neonatorum.....	170
Nursing Homes Registration Act, 1927.....	170
Midwives Act, 1918.....	171
Maternal Deaths.....	171

### TABLES —

C.W.1.....	156
C.W.2.....	159
C.W.3.....	164

## SECTION VIII.—HOPE HOSPITAL..... 172

## SECTION I.

## Mortality Statistics.

## STATISTICAL SUMMARY, 1933.

**Area.** The City of Salford has a total area of 5,202 acres.

**Population.** (Registrar-General's Estimate at Mid-year, 1933) . . . . . 217,000

„ (Census, 1931) . . . . . 223,438

**Density.** The Mean Density of the City is equal to 41.7 persons per acre.

Live Births	Legitimate	1,683 Males,	1,512 Females	3,195
	Illegitimate	57 „	64 „	121
Total				3,316

Annual Rate of Births per 1,000 of the Population . . . . . 15.3

Still Births	Males	90	Total..	173
	Females	83		

Annual Rate of Still Births per 1,000 Total Births . . . . . 49.6

Deaths	Males	1,578		3,012
	Females	1,434		

Annual Rate of Mortality per 1,000 of the Population . . . . . 13.9

Percentage of total deaths occurring in Public Institutions . . . . . 50.6 per cent.

## Deaths from Puerperal Causes :—

	Deaths.	Rate per 1,000 Total Births
Puerperal Sepsis.....	10	2.9
Other Puerperal Causes.....	13	3.8
Total	23	6.7

## Death-rate of Infants under one year of age per 1,000 live births :—

Legitimate, 78.	Illegitimate, 116.	Total	80
Deaths from Measles (all ages).....			2
„ „	Whooping Cough (all ages).....		19
„ „	Diarrhoea (under 2 years of age).....		22

TABLE M. 1.

DEATHS IN WARDS FOR THE YEAR 1933.

CAUSES OF DEATH.	AT ALL AGES.																
	City.	Albert Park.	Charlestown.	Claremont.	(Crescent.	Docks.	Kersal.	Langworthy.	Mandley Park.	Ordsall Park.	Regent.	St. Matthias.	St. Paul's.	St. Thomas.	Seedley.	Trinity.	Waste.
Enteric Fever.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Small-pox.....	2	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...
Measles.....	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever.....	19	1	...	1	7	...	...	...	2	3	1	1	1	1	1	1	...
Whooping Cough.....	24	1	1	2	4	1	...	3	...	...	3	...	3	4	1	...	...
Diphtheria and Croup.....	120	7	11	13	9	8	7	7	7	6	8	10	6	5	3	8	1
Influenza.....	14	3	...	...	3	1	1	...	2	1	...	2	...	...	...	...	2
Erysipelas.....	7	1	1	2	...	1	1	...	...	22	1	24	11	13	7	15	18
Encephalitis Lethargica.....	243	23	15	5	29	10	9	12	8	22	22	24	11	13	7	15	18
Tuberculosis of Respiratory System.....	11	...	1	...	1	...	...	...	...	3	6	1	1	1	1	1	2
Tuberculous Meningitis.....	32	5	...	...	3	...	...	...	3	3	6	2	3	2	1	2	2
Other Tuberculous Diseases.....	17	2	...	...	...	...	...	...	1	2	1	2	2	1	1	2	1
Syphilis.....	13	...	...	1	1	1	3	1	...	...	1	3	1	...	...	1	...
General Paralysis of the Insane, etc.....	323	30	16	16	25	14	14	14	22	15	29	20	21	22	17	24	24
Cancer (Malignant Disease).....	27	5	1	2	...	3	2	...	3	1	2	...	2	3	1	...	1
Diabetes.....	23	1	2	...	3	...	1	1	2	1	2	...	3	4	...	1	2
Rheumatic Fever.....	6	...	2	...	...	1	...	...	...	...	1	1	...	...	...	...	...
Meningitis.....	9	1	...	...	...	...	...	2	...	2	...	1	...	...	...	1	...
Cerebro-Spinal Fever.....	118	18	13	10	10	2	7	5	5	5	9	9	4	5	2	8	6
Cerebral Hemorrhage, etc.....	460	35	37	16	37	25	22	31	26	45	30	29	18	32	15	36	26
Heart Disease.....	8	...	...	...	1	...	1	...	...	1	1	...	1	...	1	2	...
Aneurysm.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>



## MORTALITY STATISTICS.

11

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Other Circulatory Diseases.....	145	8	10	9	9	11	5	13	8	8	12	11	6	7	9	7	14
Bronchitis.....	267	22	14	12	31	18	9	8	20	21	24	12	19	10	5	29	13
Pneumonia (all forms).....	260	14	17	10	29	9	10	10	15	24	24	22	22	17	3	21	13
Other Respiratory Diseases.....	33	2	3	3	3	3	1	...	3	4	2	2	...	1	...	4	2
Diarrhea and Enteritis.....	26	2	3	...	3	1	...	1	2	1	2	2	3	3	...	2	1
Peptic Ulcer.....	20	3	...	1	3	...	3	1	...	1	2	...	2	2	1	1	...
Appendicitis.....	16	2	2	1	...	1	1	...	2	...	1	...	2	1	1	2	...
Cirrhosis of Liver.....	3	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...
Other Diseases of Liver, etc.....	14	1	1	1	...	3	...	...	1	2	...	...	2	1	1	1	...
Other Digestive Diseases.....	46	4	...	1	7	3	2	3	3	5	4	2	3	1	1	3	5
Nephritis, Acute and Chronic.....	66	3	2	2	10	4	1	5	3	8	10	5	3	4	1	3	2
Puerperal Sepsis.....	10	2	...	...	2	1	1	1	...	...	...	1	1	...	...	1	...
Other puerperal causes.....	13	2	1	...	2	...	...	...	...	3	...	...	1	1	...	1	...
Congenital Debility and Malformation.....	69	8	4	1	6	5	5	5	3	4	6	6	4	1	...	7	4
Premature Birth.....	75	4	5	6	5	5	2	11	3	3	5	5	4	6	2	6	3
Senility.....	190	17	12	12	8	19	6	6	12	13	21	15	6	18	3	13	9
Suicide.....	25	...	2	1	4	...	3	...	7	1	2	2	3	3	4	...	...
Other Violence.....	90	6	6	1	13	6	3	3	7	6	9	5	6	7	3	5	4
Other Defined Diseases.....	166	11	11	6	11	14	6	11	16	16	14	5	11	12	9	6	7
Causes Ill-defined or Unknown.....	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Totals.....	3012	245	193	135	279	171	128	155	179	225	258	203	175	189	92	219	166

TABLE M. 2.

CAUSES OF, AND AGES AT, DEATH DURING THE YEAR, 1933.

CAUSES OF DEATH.	NET DEATHS AT THE SUBJOINED AGES OF " RESIDENTS " WHETHER OCCURRING WITHIN OR WITHOUT THE DISTRICT.								
	All Ages.	Under 1 year.	1 and under 2 years.	2 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.	65 and upwards.
ALL CAUSES— Certified.....	3006	264	54	66	75	146	382	915	1104
Uncertified.....	6	...	...	...	...	...	...	3	3
Enteric Fever.....	...	...	...	...	...	...	...	...	...
Small-pox.....	...	...	...	...	...	...	...	...	...
Measles.....	2	...	1	1	...	...	...	...	...
Scarlet Fever.....	1	...	...	1	...	...	...	...	...
Whooping Cough.....	19	6	5	7	...	...	...	1	...
Diphtheria and Croup.....	24	...	...	13	10	1	...	...	...
Influenza.....	120	4	2	5	...	9	20	42	38
Erysipelas.....	14	4	...	...	1	3	...	4	2
Encephalitis Lethargica.....	7	...	...	...	...	1	1	1	4
Tuberculosis of Respiratory System.....	243	...	1	1	1	54	98	82	6
Tuberculous Meningitis.....	11	...	1	3	5	...	1	...	1
Other Tuberculous Diseases.....	32	1	...	3	4	9	6	8	1
Syphilis.....	17	1	...	...	...	...	2	14	...
General Paralysis of the Insane, Tabes Dorsalis.....	13	...	...	...	...	...	2	8	3
Cancer, Malignant disease.....	323	...	...	...	...	2	23	158	140
Diabetes.....	27	...	...	...	...	...	5	13	9
Rheumatic Fever.....	23	...	...	2	3	4	8	3	3
Meningitis.....	6	...	1	...	1	...	2	1	1
Cerebro-Spinal Fever.....	9	2	1	...	2	...	3	1	...
Cerebral Hæmorrhage, etc.....	118	1	...	...	...	...	4	46	67
Heart Disease.....	460	...	...	1	6	9	39	159	246
Aneurysm.....	8	...	...	...	...	...	1	5	2
Other Circulatory Diseases.....	145	...	...	...	...	...	2	42	101
Bronchitis.....	267	12	4	...	2	2	18	91	138
Pneumonia (all forms).....	260	52	24	16	6	18	44	68	32
Other Respiratory Diseases.....	33	2	2	...	1	3	8	14	3
Diarrhœa and Enteritis.....	26	19	3	...	1	...	...	1	2
Peptic Ulcer.....	20	...	...	...	...	...	5	9	6
Appendicitis.....	16	...	...	2	2	1	5	5	1
Cirrhosis of Liver.....	3	...	...	...	...	...	...	2	1
Other diseases of Liver, etc.....	14	...	...	...	1	...	1	5	7
Other Digestive Diseases.....	46	6	...	4	3	1	7	12	13
Nephritis Acute and Chronic.....	66	...	...	...	1	3	3	30	29
Puerperal Sepsis.....	10	...	...	...	...	3	7	...	...
Other Puerperal causes.....	13	...	...	...	...	2	11	...	...
Congenital Debility and Malforma- tion.....	69	65	1	1	2	...	...	...	...
Premature Birth.....	75	75	...	...	...	...	...	...	...
Senility.....	190	...	...	...	...	...	...	4	186
Suicide.....	25	...	...	...	...	2	7	14	2
Other Violence.....	90	4	4	5	12	12	14	21	18
Other Defined Diseases.....	166	10	4	1	11	7	35	53	45
Diseases ill-defined or unknown.....	1	...	...	...	...	...	...	1	...
Totals.....	3012	264	54	66	75	146	382	918	1107

TABLE M. 3.

BIRTHS IN THE CITY OF SALFORD AND IN ITS WARDS, DISTINGUISHING  
DEATHS OF LEGITIMATE AND ILLEGITIMATE  
INFANTS UNDER ONE YEAR OLD.  
FOR THE YEAR, 1933

Ward.	Births.		Percentage of Illegit. Births to Total Births.	Deaths under One Year.		Proportion of Deaths under One Year per 1,000 Births.		
	Total.	Illegit.		Total.	Illegit.	Total.	Legit.	Illegit.
Albert Park.....	277	15	5.4	20	1	72	73	67
Charlestown.....	215	5	2.3	20	1	93	90	200
Claremont .....	114	2	1.8	9	....	79	80	....
Crescent.....	295	12	4.1	23	1	78	78	83
Docks.....	183	9	4.9	12	1	66	63	111
Kersal.....	152	6	4.0	10	2	66	48	333
Langworthy.....	143	4	2.8	20	2	140	129	500
Mandley Park.....	218	10	4.6	18	1	83	82	100
Ordsall Park.....	214	12	5.6	22	4	100	89	333
Regent.....	270	5	1.9	26	1	96	94	200
St. Matthias'.....	263	9	3.4	20	....	76	79	....
St. Paul's.....	210	10	4.8	17	....	81	85	....
St. Thomas'.....	209	4	1.9	15	....	72	73	....
Sedley.....	110	1	0.9	2	....	18	18	....
Trinity.....	275	13	4.7	20	....	73	76	....
Weaste.....	168	4	2.4	10	....	60	61	....
<b>Totals.....</b>	<b>3,316</b>	<b>121</b>	<b>3.6</b>	<b>264</b>	<b>14</b>	<b>80</b>	<b>78</b>	<b>116</b>

CORRESPONDING DATA FOR THE CITY FOR THE TEN YEARS 1923-1932.

City..	41,844	1,623	3.9	4,296	286	103	100	176
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TABLE M. 4.

SHOWING THE BIRTHS IN THE CITY OF SALFORD, DEATHS OF LEGITIMATE  
AND ILLEGITIMATE INFANTS UNDER ONE YEAR OLD AND THE  
PROPORTION OF DEATHS UNDER ONE YEAR OF AGE PER  
1,000 BIRTHS DURING THE YEARS 1915 TO 1933.

Year.	Births.			Percentage of Illegitimate Births to Total Births.	Deaths under One Year.			Proportion of Deaths under One Year per 1,000 Births.		
	Total.	Legit.	Illegit.		Total.	Legit.	Illegit.	Total.	Legit.	Illegit.
1915.....	5455	5257	198	3.6	733	692	41	134	132	207
1916 .....	5091	4894	197	3.9	587	544	43	115	112	218
1917.....	4452	4234	218	4.9	551	498	53	124	118	243
1918.....	4282	4043	239	5.5	478	436	42	111	107	175
1919.....	4435	4179	256	5.8	501	466	35	113	111	137
1920 .....	6441	6170	271	4.2	630	584	46	97	94	169
1921.....	5993	5702	291	4.8	641	585	56	107	102	192
1922 .....	5416	5169	247	4.5	599	564	35	110	109	141
1923 .....	5047	4841	206	4.1	493	458	35	98	95	170
1924 .....	4745	4569	176	3.7	579	533	46	122	117	261
1925 .....	4597	4398	199	4.3	482	452	30	105	103	151
1926 .....	4511	4349	162	3.6	464	434	30	103	100	185
1927 .....	4301	4130	171	4.0	348	328	20	81	79	117
1928.....	4073	3915	158	3.9	431	408	23	106	104	146
1929.....	3903	3761	142	3.6	489	460	29	125	122	204
1930.....	3787	3640	147	3.9	323	290	33	86	80	224
1931.....	3479	3357	122	3.5	351	326	25	101	97	205
1932.....	3401	3261	140	4.1	336	321	15	99	98	107
1933.....	3316	3195	121	3.6	264	250	14	80	78	116

TABLE M. 5.

SHOWING THE BIRTH-RATES, ALSO RATES OF MORTALITY FROM ALL CAUSES, FROM THE SEVEN PRINCIPAL ZYMOTIC DISEASES, AND FROM PHTHISIS, CANCER, NERVOUS DISEASES, HEART DISEASES, BRONCHITIS, PNEUMONIA AND THE INFANT MORTALITY RATE, DURING THE YEARS 1878 TO 1933.

Years.	Population.	Rates per 1,000 Population from									Deaths under One Year to 1,000 Births.	Marriage Rate.
		Births.	Deaths, All Causes.	Seven Principal Zymotic Diseases.	Phthisis.	Cancer.	Nervous Diseases.	Heart Diseases.	Bronchitis.	Pneumonia.		
1878 ....	160,277	44.7	27.1	5.4	2.7	0.5	3.5	1.1	3.6	1.8	185	17.9
1879* ..	165,899	43.0	26.7	4.2	2.9	0.4	3.7	1.2	4.3	1.8	170	15.2
1880 ....	171,727	41.4	27.9	7.4	2.7	0.4	3.2	0.9	3.4	1.9	197	16.6
1881 ....	177,760	38.8	22.5	3.0	2.5	0.5	3.1	1.1	3.6	1.6	163	16.4
1882 ....	179,855	39.7	23.7	4.0	2.4	0.4	3.6	1.1	2.8	1.7	177	16.9
Average 5 years.		41.5	25.6	4.8	2.6	0.4	3.4	1.1	3.5	1.8	178	16.6
1883 ..	181,951	37.3	23.6	3.4	2.7	0.4	3.1	1.2	3.0	1.7	171	16.1
1884* ..	184,047	38.8	24.4	4.4	2.6	0.5	2.9	1.1	2.8	1.7	184	16.1
1885 ..	186,142	37.6	23.0	3.6	2.6	0.5	2.9	1.2	3.0	1.9	174	16.1
1886 ..	188,238	38.5	24.8	4.1	2.6	0.5	2.8	1.3	3.3	1.8	197	15.3
1887 ....	190,334	36.6	25.5	4.9	2.3	0.5	3.2	1.3	2.9	2.2	195	15.4
Average 5 years.		37.8	24.3	4.1	2.6	0.5	3.0	1.2	3.0	1.9	184	15.8
1888 ....	192,429	37.1	24.8	3.9	2.3	0.5	3.0	1.1	3.0	2.1	184	15.2
1889 ..	194,525	35.9	25.1	5.3	1.9	0.6	2.5	1.3	2.6	1.9	181	16.7
1890* ..	196,621	36.1	27.7	4.4	2.2	0.5	2.0	1.3	3.4	3.8	198	17.5
1891 ....	198,775	36.3	26.0	3.4	2.2	0.5	2.2	1.1	3.7	3.0	194	18.1
1892 ....	200,833	35.8	24.6	4.6	1.9	0.6	2.0	1.2	2.6	2.9	186	16.7
Average 5 years.		36.2	25.6	4.3	2.1	0.5	2.3	1.2	3.1	2.7	189	16.8
1893 ....	203,015	34.7	24.1	4.2	1.9	0.6	2.0	1.4	2.6	2.3	211	16.2
1894 ....	205,220	34.3	21.1	3.3	1.8	0.6	2.0	1.1	1.9	2.3	174	17.1
1895 ....	207,449	35.9	25.6	5.0	1.9	0.6	2.3	1.3	2.6	2.7	229	17.4
1896* ..	209,703	35.6	23.1	4.2	1.5	0.6	2.0	1.4	2.2	2.7	200	18.1
1897 ..	211,981	35.2	23.9	5.6	1.8	0.6	2.1	1.3	2.4	2.1	219	18.6
Average 5 years.		35.1	23.6	4.5	1.8	0.6	2.1	1.3	2.3	2.4	207	17.5
1898 ..	214,284	34.9	22.8	4.2	1.8	0.8	2.2	1.2	2.2	2.2	213	18.6
1899 ..	216,612	34.1	23.9	4.4	1.8	0.6	2.3	1.4	2.5	2.7	211	18.7
1900 ..	218,965	33.3	25.3	4.1	1.8	0.6	2.4	1.7	3.2	2.8	208	17.3
1901 ..	221,212	29.2	21.7	4.2	1.8	0.7	1.9	1.5	2.3	1.9	205	17.9
1902* ..	222,233	34.0	19.3	2.7	1.7	0.7	2.0	1.5	2.2	2.1	157	18.4
Average 5 years.		33.1	22.6	3.9	1.8	0.7	2.2	1.5	2.5	2.3	199	18.2
1903 ....	223,260	32.6	19.4	2.9	1.8	0.7	1.9	1.4	2.1	1.9	168	18.1
1904 ....	224,299	32.4	21.4	4.4	2.0	0.6	1.8	1.7	2.2	1.9	193	21.5
1905 ....	225,327	31.8	17.7	2.6	1.5	0.6	1.7	1.6	1.8	1.8	148	17.8
1906 ....	226,367	31.2	19.1	3.3	1.7	0.8	1.7	1.5	2.0	1.8	162	18.6
1907 ....	227,413	30.6	18.5	2.2	1.7	0.7	1.7	1.6	2.1	2.3	140	17.9
Average 5 years.		31.7	19.2	3.1	1.7	0.7	1.8	1.6	2.0	1.9	162	18.8



TABLE M. 5—Continued.

Years.	Population.	Rates per 1,000 Population from									Deaths under One Year to 1,000 Births.	Marriage Rate
		Births.	Deaths, All Causes.	Seven Principal Zymotic Diseases.	Phthisis.	Cancer.	Nervous Diseases.	Heart Diseases.	Bronchitis.	Pneumonia.		
1908* ..	228,463	31.2	18.7	3.2	1.6	0.7	1.6	1.4	1.9	1.7	153	15.5
1909 ....	229,519	29.5	19.0	2.5	1.5	0.8	1.7	1.4	2.3	2.3	141	15.6
1910 ....	230,579	28.6	16.2	1.8	1.4	0.9	1.6	1.4	1.8	1.7	131	16.0
1911 ....	231,641	27.4	17.4	2.5	1.6	0.9	1.3	1.3	1.8	1.8	154	....
1912 ....	232,726	26.8	17.2	2.2	1.5	1.0	1.4	1.5	2.1	2.0	130	....
Average 5 years.		28.7	17.7	2.4	1.5	0.9	1.5	1.4	2.0	1.9	142	....
1913* ..	233,849	27.0	16.3	1.9	1.4	1.0	1.4	1.8	1.8	1.7	139	....
1914 ....	234,975	26.9	17.1	1.9	1.6	1.1	1.4	1.8	1.8	1.8	126	....
1915 ....	219,979†	24.8	19.1	2.8	1.7	1.1	1.4	1.6	2.3	1.9	134	....
1916 ....	214,229†	21.8	15.8	1.2	1.6	1.0	1.3	1.3	1.9	1.5	115	....
1917 ....	211,373†	18.9	16.0	1.6	1.5	1.2	1.4	1.3	2.0	1.4	124	....
Average 5 years.		24.3	16.8	1.9	1.6	1.0	1.4	1.6	2.0	1.7	128	....
1918 ....	209,274†	18.3	18.0	1.0	1.6	1.1	1.2	1.1	2.3	1.9	111	....
1919 ....	226,225†	18.8	15.8	0.8	1.2	1.1	1.1	1.1	2.4	1.5	113	....
1920 ....	235,239	27.3	13.7	0.9	1.2	1.0	1.0	1.0	1.8	1.1	98	....
1921* ..	239,100	25.2	13.9	1.1	1.3	1.0	1.0	1.2	1.7	1.5	106	....
1922 ....	240,700	22.1	14.6	1.3	1.3	1.1	0.9	1.1	1.9	1.7	110	....
Average 5 years.		22.3	15.2	1.0	1.3	1.0	1.0	1.1	2.0	1.5	108	....
1923 ....	241,600	20.9	13.5	0.8	1.3	1.2	0.9	1.1	1.6	1.5	98	....
1924 ....	243,700	19.5	14.5	1.3	1.2	1.3	0.7	1.0	1.8	1.6	122	....
1925 ....	244,700	18.8	13.9	1.0	1.3	1.2	0.8	1.0	1.8	1.3	105	....
1926 ....	247,400	18.2	12.4	0.7	1.3	1.3	0.9	1.0	1.6	1.1	103	....
1927* ..	247,600	17.3	13.9	0.7	1.4	1.3	1.1	1.5	1.5	1.3	81	....
Average 5 years.		18.9	13.6	0.9	1.3	1.3	0.9	1.1	1.7	1.4	102	....
1928 ....	241,500	16.9	13.3	0.8	1.2	1.3	0.8	1.3	1.4	1.2	106	....
1929 ....	235,600	16.6	15.4	1.5	1.2	1.3	0.9	1.1	2.2	1.6	125	....
1930 ....	230,100	16.5	13.3	0.9	1.2	1.4	0.8	1.3	1.6	1.1	86	....
1931 ....	225,900	15.4	14.2	0.6	1.2	1.4	0.8	1.4	1.8	1.4	101	....
1932 ....	220,300	15.4	13.2	0.6	1.0	1.7	0.9	1.8	1.1	1.1	99	....
Average 5 years.		16.2	13.9	0.9	1.2	1.4	0.8	1.4	1.6	1.3	103	....
1933 ....	217,000	15.3	13.9	0.3	1.1	1.5	0.9	2.1	1.2	1.2	80	....

\* In the years 1879, 1884, 1890, 1896, 1902, 1908, 1913, 1921, and 1927 the facts are those registered in 53 instead of 52 weeks; corrections have therefore been made in calculating the rates. † Civil population.

## SECTION II.

# General Work of the Health Department.

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## (A) SANITARY CIRCUMSTANCES AND SANITARY ADMINISTRATION OF THE DISTRICT.

### Natural and Social Conditions of the District.

Salford is situated in the south-east of Lancashire and is partially divided from Manchester by the River Irwell. The older portion of the City lies along the right bank of the river, and the ground rises gradually from an elevation of 85 feet above sea level to about 250 feet, the mean elevation being 140 feet.

The area of the City of Salford is 5,202 acres. The subsoil consists principally of clay interspersed with sand and gravel, with occasional patches of red sandstone.

The population is largely industrial; a considerable portion of the City is occupied by cotton factories and engineering works, with collieries on the outskirts.

The principal Docks and a portion of the Manchester Ship Canal are situated in Salford.

There is no special influence of any particular occupation on the public health of the area.

Owing to the industrial character of the City, and the close proximity of a number of other industrial towns, the atmosphere of Salford is heavily smoke polluted. This pollution contains an excessive proportion of tarry substances given off from the burning of raw coal in domestic grates. Generally speaking, the rainfall is excessive and the atmosphere humid. Owing to the pollution of the atmosphere and the excess of cloud, there is a deficiency of sunshine.

### Salford Local Acts and Orders.

The Salford Borough Act, 1857.

The Salford Improvement Act, 1862.

The Salford Improvement Act, 1867.

The Salford Improvement Act, 1870.

The Salford Improvement Act, 1871.

The Salford Tramways and Improvement Act, 1875.

Provisional Order relating to the Borough of Salford confirmed by the Local Government Board's Provisional Order Confirmation (No. 8) Act, 1882.

An Order, dated 20th December, 1882, and made by the Local Government Board under the provisions of the Divided Parishes and Poor Law Amendment Act, 1876, as amended and extended by the Poor Law Act, 1879, amalgamating a detached part of the Township of Pendlebury with the Township of Pendleton.

The Salford Corporation Tramways Order, 1885, confirmed by the Tramways Orders Confirmation (No. 2) Act, 1885.

The Salford Corporation Act, 1886.

The Salford Corporation Act, 1891.

Provisional Order relating to the Borough of Salford confirmed by the Local Government Board's Provisional Orders Confirmation (No. 14) Act, 1891.

Provisional Order relating to the Borough of Salford confirmed by the Local Government Board's Provisional Orders Confirmation (Housing of Working Classes) Act, 1891.

Provisional Order relating to the Borough of Salford confirmed by the Local Government Board's Provisional Order Confirmation (No. 12) Act, 1892.

The Salford Improvement Act, 1893.

The Salford Corporation Act, 1897.

The Salford Order, 1898.

An Order, dated 2nd March, 1899, and made by the Local Government Board under the provisions of the Housing of the Working Classes Act, 1890, modifying an improvement scheme relating to the Borough of Salford.

The Salford Corporation Act, 1899.

The Salford Corporation Act, 1900.

The Salford Corporation Act, 1901.

The Salford Corporation Act, 1902.

The Salford Corporation Act, 1903.

Order in Council, dated 27th March, 1905, directing that none but persons duly licensed shall let Lodgings to Seamen in the Borough of Salford.

The Salford Order, 1906.

The Salford Order, 1908.

The Salford Order, 1912.

The Salford (Union of Townships) Order, 1918.

The Salford Corporation Act, 1920.

Confirming Order of Minister of Health, dated 7th April, 1921, under Section 112 of the Public Health Act, 1875, as amended by Section 51 of the Public Health Acts Amendment Act, 1907, declaring that certain trades be Offensive Trades.



Order in Council, dated 10th August, 1921, approving scheme determining the Wards of the Borough and apportioning the Councillors.

The Salford Order, 1922.

The Salford Order, 1925.

The Salford Corporation Act, 1927.

The Salford Corporation Act, 1933.

### **Acts of Parliament adopted by the Council.**

The Baths and Wash-house Acts. Adopted October 4th, 1876.

Infectious Diseases (Notification) Act, 1889. Adopted 5th February, 1920.

The Infectious Disease (Prevention) Act, 1890 (except Sections 14 and 19) and Parts 2, 3, 4 and 5 of the Public Health Acts Amendment Act, 1890. Adopted January 7th, 1891.

The Private Street Works Act, 1892. Adopted April 4th, 1894.

Notification of Births Act, 1907. Adopted January 7th, 1914.

Section 95 of the Public Health Acts Amendment Act, 1907. Order issued by Local Government Board, dated 27th October, 1908, declaring the above section to be in force in the County Borough of Salford.

Public Health Acts Amendment Act, 1907, Section 51.

Public Health Acts Amendment Act, 1907. Order of Local Government Board, dated 28th August, 1909, that on and after 16th October, 1909, Section 47 and Part V. of the Act should be in force in the County Borough of Salford.

Public Health Acts Amendment Act, 1907. Order of Local Government Board, dated 22nd April, 1914, that on and after 3rd June, 1914, Sections 23, 27, 33 and 76 of the Act should be in force in the County Borough of Salford.

### **Sanitary Circumstances.**

**WATER.**—The water supply is obtained from the Manchester Corporation's reservoirs at Longdendale Valley. It is ample in quantity and excellent in quality.

**RIVERS AND STREAMS.**—The question of river pollution is in the hands of the River Irwell Conservancy Committee.

### **Drainage and Sewerage.**

The drains of the District are satisfactory. Salford sewage is conveyed to the Sewage Works at Weaste by a combined system of Sewers. The sewage is treated with Lime and Copperas, after which it is passed through

settling tanks, and thence through aerating filter-beds and humus tanks. The effluent from the humus tanks is discharged into the Manchester Ship Canal and the residual sludge carried out to sea by steamer.

**PUBLIC CLEANSING.**—The removal and disposal of house refuse is under the authority of the Lighting and Cleansing Committee of the Corporation.

### PUBLIC CLEANSING.

No alteration in the method of disposing of dry house refuse in Salford took place during 1933, as compared with 1932. I am indebted to the Director of Public Cleansing for the following particulars as to the method of collection and disposal of refuse, etc., in Salford :—

- |   |   |
|---|---|
| (a) The method of collecting dry house refuse.                        | Weekly collection in dustless loading vehicles from galvanised standard ashbins.  |
| (b) The method of collecting refuse from earth closets and privies.   | No privy ashpits. The number of excreta pails is negligible. The collection of excreta, in two-wheeled tanks, is made during the midnight hours, and taken direct to the Chief Dépôt of the Cleansing Department.   |
| (c) The method of disposing of dry house refuse.                      | Strictly under Controlled Tipping methods as laid down by the Ministry of Health, and also by incineration at the Chief Dépôt of the Cleansing Department.  |
| (d) The method of disposing of refuse from earth closets and privies. | (See (b)).  |
| (e) The method of cleansing cesspools.                                | <div style="display: inline-block; vertical-align: middle; font-size: 4em; line-height: 1;">{</div> <div style="display: inline-block; vertical-align: middle;">           One only. The contents are transferred during the night-time into a specially-constructed two-wheeled tank, and conveyed to the Chief Depot of the Cleansing Department, and mixed with Street Sweepings for disposal to Farmers.         </div> |
| (f) Arrangements for the disposal of cesspool contents.               |   |

### Sanitary Inspection of District.

**STAFF.**—The staff employed in this connection consists of the Chief Inspector, a Deputy Chief Inspector, nine Assistant Inspectors, and one Lady Inspector.

The systematic inspection of the City was conducted during the year 1933 on the same lines as in previous years. The result of the inspections may be gathered from a perusal of the "Register of Work Done," which is to be found at the end of this section of the report. It shows that the number of complaints received at the office of the Department was 6,848, as compared with 3,745 received in 1932, also that 7,876 dwellinghouses were inspected during the year. The details of each section of the work will be found under the special heading.

TABLE G. 1.

## COMMON LODGING HOUSES, 1933.

	Wards.				
	Crescent.	St. Paul's.	St. Thomas's.	Trinity.	Total.
Number on Register.....	6	1	1	5	13
Number added to Register in 1933.....	....	....	....	....	....
Number removed from Register in 1933.....	1	....	....	....	1
Number of Rooms.....	53	6	8	37	104
"    Beds.....	251	25	23	476	775
Average Number occupied each night—Males.	91	15	11	343	460
Female.	....	....	....	....	....
Notices served on Landlords.....	4	....	....	1	5
"    "    Keepers.....	....	....	....	....	....
Number of Day Inspections.....	206	27	26	99	358
"    Night Inspections.....	8	2	2	..	12

## Common Lodging Houses.

There were 13 Common Lodging Houses on the register during the year, including Salford House in Bloom Street; six are in the Crescent Ward, five in Trinity, one in St. Paul's, and one in St. Thomas's Wards. These houses contain 104 rooms, with 775 beds. The average number of beds occupied per night was 460 for males and none for females. Three hundred and fifty-eight inspections were made during the day time and 12 at night.

The addresses of and particulars relating to these lodging houses are as follows :—

Address.	Accommodation. Sleeping Rooms.	Lodgers.	Total number of lodgers who could be accom- modated during the year.	Total number of lodgers accom- modated during the year.
17, Bolton Street.....	5	49	17,885	11,024
61, Bury Street.....	7	33	12,045	7,647
32/34, Chapel Street.....	14	67	24,455	10,942
41A, Gravel Lane.....	5	42	15,330	7,774
" Salford House," Bloom Street	6	285	104,025	87,479
21, East Ordsall Lane.....	2	16	5,840	2,198
1 and 1A, Park Place.....	24	125	45,625	13,222
2, Park Place.....	13	25	9,125	2,437
3, Park Place.....	4	36	13,140	3,637
13, Windsor.....	4	15	5,475	1,458
2, Comus Street.....	6	34	12,410	10,096
1/5, Travis Court.....	8	23	8,395	3,970
2, West High Street.....	6	25	9,125	5,602

The total number of lodgers who could be accommodated during the year, in all the houses, was 282,875, and the total number actually accommodated was 167,486, a difference of 115,389.

Of the 775 beds, an average of 460 was occupied each night, leaving an average of 315 beds empty. One house, No. 2, Park Place, was discontinued in December.

The above figures show that although the lodging houses as a whole (excluding the Corporation's own institution—" Salford House ") were occupied to only 44.7 per cent. of their full capacity, " Salford House " itself was occupied to the extent of 84.1 per cent. of its total accommodation, and this in spite of the fact that its charges are about 25 per cent. higher than those obtaining in ordinary lodging houses.

These Lodging Houses have been kept in good and clean condition during the year, and the Byelaws have been observed.

#### Houses Sub-let in Lodgings.

There are 383 houses let in apartments in the City ; these contain 2,175 rooms. Fifty-six houses were registered during the year and nineteen discontinued.

The registration of these houses gives us power to inspect them at any time. They have been inspected from time to time, and they have received 1,536 inspections in the day time and 372 at night.

Throughout the year the District Inspectors have given much attention to the question of overcrowding as regards many of these houses.

There were 135 infringements of the Byelaws; 26 of these were for stair-cases and landings not being artificially lit at night, 8 for rooms being overcrowded, 49 for rooms requiring cleansing and re-decorating, 9 for no proper washing accommodation for clothes, 6 for insufficient water-closet accommodation, 3 for premises being temporarily without water supply, 10 for water-closets being without a proper flush of water and bathroom fittings defective, 2 for windows deficient of sash cords, 5 for there being no means provided for the preparation, cooking or storage of food, 2 for dilapidated and insufficient bedding supplied, 12 for dirty rooms, floors, landings and bedding, and 3 for dirty water-closets, accumulations of refuse, etc.

By the end of the year 116 of these infringements had been rectified.

#### Seamen's Lodging Houses.

There were eight Seamen's Lodging Houses in the City on the Register during the year, containing 30 rooms and 97 beds. There have been nine applications for renewals and new licences. One house was given up towards the end of the year and one house was newly licenced.

The Byelaws in force regulating these houses have been carried out, and the houses generally kept in good and clean condition. One hundred and forty visits have been made during the day time and 12 at night.

The addresses of and particulars relating to these houses are as follows:—

Address.	Accommodation. Sleeping Rooms.	Lodgers.
129/131, Trafford Road.....	4	17
69, Monmouth Street.....	6	12
53, Trafford Road.....	5	26
31, Gledhill Street.....	1	1
68, Monmouth Street.....	4	8
71, Goodiers Lane.....	4	14
61, Trafford Road.....	3	12
178, West Park Street.....	3	7

The keepers of these houses are not required to submit a Return of the number of Seamen sleeping on the premises, but it is the general impression from the visits made by the Inspectors that these houses are not used to the fullest extent. This is no doubt due to the slackness of trade in the shipping business.



**Workshops.**

At the end of the year there were 861 workshops on the register. These have been regularly inspected by the Lady Inspector of Workshops and by the District Inspectors, the Lady Inspector visiting those workshops where females are employed and the District Inspectors visiting those premises where males only are employed.

One hundred and eighty-five defects were found in the workshops, the particulars being given in Table B. The chief defect was want of cleanliness both in the workshops and bakehouses, which was found in 53 cases and 132 cases respectively. Twenty-two notices were served, and in the other case the tenant was cautioned and the defect remedied.

*Re* OUTWORKERS.—The women outworkers' premises are visited by the Lady Inspector of Workshops, and those of the men by the District Inspectors.

During the year 192 visits have been paid.

During this year the Lady Inspector of Workshops has inspected 678 Fish and Chip Restaurants, where women are employed, to ascertain the conditions as to cleanliness and sanitation.

A number of these premises are still being found where the yard space has been enclosed, thereby preventing free ventilation to the sanitary accommodation. Where these have been found, the tenants have been warned, and the structures removed: 15 notices were served for other defects.

**FACTORIES, WORKSHOPS, WORKPLACES AND HOME-WORK.****A.—Inspection.**

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS  
DURING THE YEAR 1933.

Premises. (1)	Number of		
	Inspections. (2)	Written Notices. (3)	Prosecutions. (4)
Factories..... (Including Factory Laundries)	27	12	....
Workshops..... (Including Workshop Laundries)	2575	12	....
Workplaces..... (Other than Outworkers' premises included in Part 3 of this Report)	679	15	....
Total.....	3281	39	....

## B.—Defects Found.

Premises.  (1)	Number of Defects.			
	Found. (2)	Remedied. (3)	Referred to H.M. Inspector. (4)	Number of Prosecutions. (5)
<i>Nuisances under the Public Health Act—*</i>				
Want of cleanliness.....	157	157	....	....
Want of ventilation.....	....	....	....	....
Overcrowding.....	1	1	....	....
Want of drainage of floors.....	8	8	....	....
Other nuisances.....	6	6	....	....
Sanitary accommodation { insufficient.....	4	2	5	....
{ unsuitable or defective.....	9	9	7	....
{ not separate for sexes.....	....	....	....	....
<i>Offences under the Factory and Workshops Act—</i>				
Illegal occupation of underground bakehouse (s. 101).....	....	....	....	....
Breach of special sanitary requirements for bake- houses (ss. 97 to 100).....	....	....	....	....
Other offences (excluding offences relating to outwork which are included in Part 3 of this Report).....	....	....	....	....
Total.....	185	183	12	....

\* Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act as remediable under the Public Health Acts.

## C.—Home Work.

## OUTWORKERS' LISTS, SECTION 107.

NATURE OF WORK.	OUTWORKERS' LISTS, SECTION 107.							OUTWORK IN UN- WHOLESOME PREMISES, SECTION 108.					OUTWORK IN INFECTED PREMISES, SECTION 109, 110.											
	Lists received from Employers.				Number of Addresses of Outworkers received from other Authorities.			Number of Addresses of Outworkers forwarded to other Authorities.			Notices served on (occupiers as to keeping or sending lists.			Prosecutions.			Number of Inspections of Outworkers' premises.	Instances.		Prosecutions.	Notices served.	Instances.	Order made, S. 110.	Prosecution, SS. 109, 110.
	Sending twice in the year.		Sending once in the year.																					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)					
• Wearing Apparel—																								
1. Making, &c.....	30	18	90	3	...	3	163	92	...	...	...	192	...	...	...	...	...	...	...					
2. Cleaning and washing	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Lace, lace curtains and nets	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Artificial flowers.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Nets, other than wire nets	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Tents.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Sacks.....	...	...	...	...	...	...	1	...	...	...	...	2	...	...	...	...	...	...	...					
Furniture and upholstery	...	...	...	...	...	...	3	...	...	...	...	4	...	...	...	...	...	...	...					
Fur pulling.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Feather sorting.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Umbrellas, &c.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Carding, &c., of buttons, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Paper bags and boxes	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Basket making.....	...	...	...	1	...	1	...	...	...	...	...	2	...	...	...	...	...	...	...					
Brush making.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Racquet and tennis balls.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Stuffed toys.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
File making.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Electro plate.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Cables and chains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Cart gear.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Locks, latches and keys.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Anchor and grapnels.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Pea picking.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Total.....	30	18	90	4	...	4	167	92	...	...	...	200	...	...	...	...	...	...	...					

\* List of Industries as prescribed by Home Office.



**D. — Registered Workshops.**

Workshops on the Register (s. 131) at the end of the year. (1)	Number. (2)
Tenement Workshops.....	7
Domestic Workshops.....	225
Laundries.....	11
Workshop Bakehouses.....	261
Other Workshops.....	357
Total number of Workshops on Register.....	861

**E. Other Matters.**

Class. (1)	Number. (2)
Matters notified to H.M. Inspector of Factories—	
Failure to affix abstract of the Factory and Workshop Act (s. 133)....	8
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (s. 5). {	12
Notified by H.M. Inspector. {	
Reports (of action taken) sent to H.M. Inspector. {	*12
Other.....	....
Underground Bakehouses (s. 101) —	
Certificates granted during the year.....	....
In use at the end of the year.....	....

\* Including reports of action taken in cases notified in previous year.

**F. — Additional Sanitation for Retail Bakehouses, Sections 97–102.**

Number of such premises in the district, 261.

Note as to their sanitary condition. Ground floor bakehouses—Good.

Action taken as to retail bakehouses in 1933. eleven notices served.

Action taken.	No. of Defects found.	Notices served.	Legal Pro- ceedings.	Defects remedied <sup>1</sup>	Remarks.
As to Closets, &c., Sec. 97.....	....	....	....	....	
As to Water Cisterns, Sec. 97 ....	....	....	....	....	
As to Drain Openings, Sec. 97....	1	....	....	1	
As to Limewashing, &c., Sec. 97	141	11	....	141	
As to Sleeping Places, Sec. 100	.	....	....	....	

Any proceedings under Section 98 as to retail bakehouses sanitarily unfit, Nil.

## BAKEHOUSES, 1933.

Registered.....	261
Added to Register.....	27
Discontinued.....	16
Changed Hands.....	10
Number of Underground Bakehouses Certified by Authority.....	Nil.
Total Number of Ovens.....	349
Employees—Males.....	259
„      Females.....	490
Notices Served.....	11

## Smoke Nuisance.

Particulars as to smoke nuisance caused by firms during the year 1933 and dealt with by the Health Committee :—

Fourteen Notices were issued under the Public Health Act.

During the year 3,615 smoke observations have been made as against 3,393 in the year 1932 and 3,366 in the year 1931.

One hundred and thirty-four stokers and others were cautioned by the Inspector for negligence in firing the furnaces under their charge, at the same time 20 firms were reported to and dealt with by the Health Committee, also 20 cautionary Notices were issued to firms with a table of smoke observations taken from their chimneys.

Several chimneys have been raised during the year in connection with small workshops.

TABLE SHOWING THE NUMBER OF HALF-HOURLY OBSERVATIONS TAKEN DURING THE YEAR 1933.

Minutes of Black Smoke emitted in half-an-hour.	No. of Observations Taken.	Percentage to Total.
No Black Smoke.....	2,856	79.0
One Minute.....	739	20.5
Two Minutes.....	5	0.1
Three Minutes.....	5	0.1
Over Three Minutes.....	10	0.3
Total Observations.....	3,615	100.0

**Manure Receptacles, and Removal of Manure and other Offensive Matter.**

The Byelaws with respect to receptacles for manure and the weekly removal of the manure, filth, or other offensive or noxious matter, which came into operation towards the end of 1909, have been enforced during the past year, and special attention has been paid to stable yards where manure quickly accumulates.

The Byelaws as regards the regular removal of manure have been well observed.

**Canal Boats Acts.**

Number of canal boats inspected.....	164
Number of canal boats conforming to Acts.....	162
Number of canal boats with one or more infringements.....	2
Total number of infringements.....	3
Registration.....	—
Absence of certificates.....	1
Dilapidation of certificate.....	—
Marking.....	2
Overcrowding.....	—
Separation of sexes.....	—
Cleanliness.....	—
Ventilation.....	—
Ventilators obstructed.....	—
Painting.....	—
Provision of water vessel.....	—
Water vessels broken.....	—
Removal of bilge water.....	—
Boats defective and leaking.....	—
Dilapidation.....	—
Stoves defective.....	—
Stove pipes defective.....	—
Pumps defective.....	—
Admittance of Inspector.....	—
Notification of infectious disease.....	—
Certificates not identifying owners.....	—
Loading manure without tight bulkheads.....	—
Number of notices served.....	1
Other steps to secure compliance.....	—
Detention of boats for cleansing and disinfection.....	—
Legal proceedings taken.....	—
Number of boats on register : Not a Registration Authority.	
Canal boats registered to carry (number of persons).....	870
Men found on the boats.....	301
Women found on the boats.....	25
Children under 12 years found on the boats.....	11

**Drainage Inspection.**

The testing and examination of all existing drainage is carried out by this Department. Two Inspectors and four labourers are kept continually at work examining drainage, and the following table gives the detailed results of their labours :—

Number of tests made.....	679
„ applications from householders.....	7
„ houses affected by the tests.....	881
„ notices and reports issued.....	391
„ notices and reports complied with.....	349
„ drain inlets opened and cleared.....	2,474

**INSANITARY CONDITIONS FOUND.****Defects.**

Number of drains wholly and partly choked.....	816
„ drains defectively constructed.....	285
„ gully traps badly laid.....	23
„ drains defectively trapped.....	18
„ waste pipes defectively trapped or connected to drains	19
„ downspouts connected to drains.....	31
„ soil pipes with leaking joints or defectively ventilated.	53
„ defective water-closets.....	105
Total defects.....	1,350

**RECONSTRUCTION OF DRAINS AND THE CONSTRUCTION OF NEW DRAINS.**

Number of tests applied.....	742
„ houses affected.....	549
„ passage main drains affected.....	18

**MODE WHEEL AMBULANCE AND DISINFECTING STATION.**

The Ambulance and Disinfecting Station situated in Mode Wheel Road is under the control of the Medical Officer of Health. The Station is used for the following purposes :

(a) The disinfecting of bedding, clothing, etc., from the homes of persons suffering from infectious diseases by means of high-pressure steam disinfection.

(b) As a dépôt for the disinfectors employed in disinfecting houses, schools, and public institutions in which a case of infectious disease has occurred.

(c) As a station for the bathing of verminous persons and the disinfection of their clothing.

(d) The bathing of persons suffering from scabies (particularly school children), and the disinfection of their clothing.

(e) The bathing of midwives who have been in contact with cases of puerperal fever, and the disinfection of their clothing and instruments.

(f) As a garage for the three motor ambulances required to take persons to and from Hospital and the three motor vans used to collect and deliver bedding, etc., before and after disinfection, and in connection with the cleansing of conveniences. The Station is also used as a repair depôt for the whole of the motor vehicles used in the Department.

The Staff employed at the Station is as follows :—

Foreman.  
Caretaker.  
Motor Mechanic.  
Four Disinfectors.  
Four Drivers.

The following is a summary of the work done at the Mode Wheel Disinfecting Station during 1933 :—

AMBULANCES.			
	Salford Cases.	Out-District Cases.	Total Cases.
Number of journeys removing patients to Hospital.....	1,525	328	1,853
Number of journeys removing patients from Hospital to their homes.....	376	—	376
Number of houses visited by ambulances removing bedding for disinfection.....	864	39	903
VANS.			
Number of houses visited by vans returning bedding after disinfection.. .. .	1,967	171	2,138

In addition, 627 journeys to Hospital for purposes other than removal of patients were made by motor vehicles, and 17 journeys were made for the purpose of taking home children after operative treatment for tonsils and adenoids. 257 journeys were made in connection with the treatment of children suffering from scabies. There were also 763 journeys for miscellaneous purposes.

## DISINFECTIONS.

Number of houses disinfected.....	2,027
„ rooms disinfected.....	5,479
„ bundles of clothing and bedding disinfected.....	7,971*
„ books disinfected.....	415
„ schools disinfected.....	5
„ hospitals disinfected (occasions).....	43
„ ships disinfected.....	—

\* Including 3886 for Hope Hospital.

## BATHING AND DISINFECTION OF CLOTHING.

Midwives.....	29
Smallpox convalescents.....	Nil.
Verminous persons.....	17
Children suffering from scabies.....	1,789

The disinfection at the Mode Wheel Disinfecting Station of bedding and clothing from Hope Hospital was continued during 1933.

## MOTOR AMBULANCE SERVICES.

The following is a summary of the Motor Ambulance Services provided in Salford :—

## (1) HEALTH DEPARTMENT—

Number of motor ambulances.....	3
---------------------------------	---

These ambulances are stationed at the Mode Wheel Disinfecting Station, Weaste, and are used principally for conveying cases of infectious disease to and from the Ladywell Sanatorium, the Nab Top Sanatorium, and the homes of Salford residents. They are also used for a similar purpose, so far as the Ladywell Sanatorium only is concerned, in the case of a number of out-districts. In addition, they are used for conveying to their homes : (a) school children who have been operated upon for the removal of tonsils and adenoids, and (b) school children suffering from scabies who have been bathed at the Mode Wheel Disinfecting Station.

## (2) PUBLIC ASSISTANCE DEPARTMENT—

Number of motor ambulances.....	2
Semi-ambulance.....	1

These vehicles are stationed at the Public Assistance Department, Eccles New Road, Salford. The ambulances are used for the conveyance of poor law



patients only, including maternity cases, while the semi-ambulance is used for conveying children to and from the Culcheth Cottage Homes, and sitting-up cases.

(3) POLICE DEPARTMENT—

Number of motor ambulances.... 4

These ambulances are stationed at the Fire Station, Crescent, Salford. They are used primarily for accidents, but are also used occasionally for private cases.

**PROPAGANDA.**

A "Health Week" was organised in Salford from Sunday, 19th November, to Sunday, 26th November, 1933, both dates inclusive. It was originally intended that the week's activities should follow exactly those which had proved so successful on past occasions. Owing to the possibility of the occurrence of legal difficulties, however, it was found to be impossible to obtain the use of Cinemas on the two Sundays, and this fact limited to a certain extent the success of the effort. It has been the practice in the past to devote the Sunday meetings to the subject of social hygiene, and in order to compensate for the loss of this outlet for such necessary propaganda, it was decided to utilise two evening meetings, one at the Pendleton Town Hall, and the other at the Broughton Town Hall for this purpose. Both meetings were confined to adults only and the Halls were filled to their full capacity.

The other meetings arranged were also well attended, and the lectures (given by Mr. T. Bowen Partington, F.I.L.) and film displays had a good reception. The films shown to school children, of course, were specially selected for this particular type of audience.

A summary of the meetings arranged and approximate attendances is given below:—

Type of Meeting.	Approximate attendance.
Lectures to School Children (mornings).....	4,000
Dinner-hour talks to employees of large firms in the City.....	450
Evening meetings open to the public.....	1,550
Evening meetings at Salford House and Adelphi Lads' Club.....	300
Sunday meetings at Salford Central Mission .....	1,000

The distribution of the periodical "Better Health" was continued during 1933. This magazine, published at monthly intervals, is distributed free of charge at practically no cost to the rates, as a considerable income is derived from advertisements. Copies are supplied to all the large firms in the City for distribution to their employees and, by arrangement with the Education Department, each School Teacher is provided with a copy.

The displays which have been given in the windows on the ground floor of the Health Offices, in Regent Road, for six years, were continued during 1933.

**Sanitary Conveniences.**

There are 21 conveniences for Males and three for Females in the City, under the control of the Health Committee, namely:—

SITUATION.	MALES.				FEMALES.		
	Urinal Stalls	Water Closets	Wash Basins	Attendant	Water Closets	Wash Basins	Attendant
Trinity Market.....	6	3	3	1	3	3	1
Trafford Road (Eccles New Road corner).....	15	4	4	1	...	...	...
Trafford Road (Ordsall Park)	12	4	6	1	...	...	...
Church Street (near the corner of Broad Street)....	10	2	3	1	3	3	1
Cross Lane.....	...	...	...	...	4	4	1
Oldfield Road (Corner of Chapel Street).....	6	...	...	...	...	...	...
Liverpool Street.....	4	...	...	...	...	...	...
Bolton Road (Junction of Claremont Road).....	6	...	...	...	...	...	...
Broughton Road.....	16	...	...	...	...	...	...
Windsor Bridge.....	6	...	...	...	...	...	...
Blucher Street.....	3	...	...	...	...	...	...
Stevenson Street.....	3	...	...	...	...	...	...
Park Lane.....	5	...	...	...	...	...	...
Broad Street.....	3	...	...	...	...	...	...
Greengate Arch.....	6	...	...	...	...	...	...
Eccles New Road.....	6	...	...	...	...	...	...
Broughton Bridge.....	8	...	...	...	...	...	...
Frederick Road.....	4	...	...	...	...	...	...
Moor Lane.....	6	...	...	...	...	...	...
Cross Lane.....	5	...	...	...	...	...	...
Albert Park.....	6	...	...	...	...	...	...
Crescent, near Victoria Arch.	6	...	...	...	...	...	...

The urinal at (Bolton Road) junction of Claremont Road has been reconstructed as a result of the alteration in the traffic control at this corner. The alteration was made necessary owing to the fact that the entrances were very conspicuous to people on the new traffic islands.

During the alterations, two new stalls were added.



TABLE G 3.

CASES HEARD BEFORE THE MAGISTRATES DURING 1933.

Offence.	No. of Cases.	Decision of Magistrates.	Total Fines (without costs).
			£ s. d.
For consigning milk to a Salford Milk Dealer which was found on analysis to be deficient of either a certain percentage of fat or of solids-not-fat.	2	1 Fined £3 and £2 2s. costs. 1 Fined £10 and £2 2s. costs.	3 0 0 10 0 0
For contravening the provisions of Milk and Dairies Order, 1926, by unlawfully carrying on the trade of a dairyman in Salford and not being registered.	1	Fined 10s. and 20s. costs.	0 10 0
For contravening the provisions of the Milk and Dairies Order, 1926, by allowing the interior of a vehicle used for the conveyance of milk to be kept in an unclean state.	1	Fined 10s. and 10s. costs.	0 10 0
For being in possession of meat for sale and intended for the food of man the same being unfit for the food of man.	1	Fined £2.	2 0 0
For failing to comply with the requirements of Notices issued under the Public Health Act, 1875, to abate nuisance arising from certain sanitary defects.	13	1 Fined 20s. and £1 1s. costs. Order to abate within 14 days. 1 Fined £2 and £3 3s. costs. Order to abate within 14 days. 4 Fined £2 and £2 2s. costs. Order to abate within 14 days. 1 Fined 10s. and £1 1s. costs. Order to abate within 14 days. 1 Fined 10s. and 10s. costs. 1 Fined 5s. and 5s. costs. 1 Fined £1 and £1 1s. costs. 3 Fined £3 and £1 1s. costs. Order to abate made.	1 0 0 2 0 0 8 0 0 0 10 0 0 10 0 0 5 0 1 0 0 9 0 0
Carried forward.	18		£38 5 0

CASES HEARD BEFORE THE MAGISTRATES DURING 1933. (*Continued*).

Offence.	No. of Cases.	Decision of Magistrates.	Total Fines (without costs).
Brought forward.....	18		£ 38 s. 5 d.
For unlawfully causing solid refuse and filth to accumulate in the scullery in contravention of the Meat Regulations, 1924.	1	Fined £1.	1 0 0
For unlawfully not causing walls and ceiling of the scullery to be white-washed as often as might be necessary to keep the same in a proper state contrary to the Meat Regulations, 1924.	1	Fined £1.	1 0 0
For failing to comply with a Notice issued under the Salford Improvement Act, 1867, by failing to repair an eaves-gutter.	1	Fined 2s. per day for a period of 90 days.	9 0 0
For failing to comply with a Notice issued under the Streets and Buildings and Sanitary Requirements made by the Corporation to make impervious a yard surface.	2	1 Fined £1. 1 Fined 5s. and 5s. costs.	1 0 0 0 5 0
For failing to comply with a Notice served under the Public Health Act, 1875, to prevent a recurrence of a nuisance arising from the accumulation of offensive refuse.	1	Fined £2 and £3 3s. costs. Order to abate made.	2 0 0
For failing to comply with the By-laws with regard to Sub-let Houses by not providing adequate W.C. accommodation at a house sub-let in lodgings.	1	Fined 20s. and £1 1s. costs.	1 0 0
	25		£53 10 0

# Housing Conditions.

YEAR ENDED 31ST DECEMBER, 1933.

## (a) GENERAL STATISTICS.

Area (acres).....	5,202
Population (1933) (Registrar General's Estimate).....	217,000
Number of Inhabited Houses (1933-1934, April).....	51,285
Number of families or separate occupiers (1933).....	
Rateable Value (1933-1934, April).....	£1,105,739
Sum represented by a penny rate (Estimate).....	£4,250

## (B) HOUSING STATISTICS.

### 1. Inspection of dwellinghouses during the year :—

1. (a) Total number of dwellinghouses inspected for housing defects  
(under P.H. or Housing Acts)..... 7,876
- (b) Number of inspections made for the purpose..... 25,708
2. (a) Number of dwellinghouses (included under sub-head (1)  
above) which were inspected and recorded under the Housing  
Consolidated Regulations, 1925..... Nil.
- (b) Number of inspections made for the purpose..... Nil.
3. Number of dwellinghouses found to be in a state so dangerous  
or injurious to health as to be unfit for human habitation..... Nil.
4. Number of dwellinghouses (exclusive of those referred to under  
the preceding sub-head) found not to be in all respects reasonably  
fit for human habitation..... 3,585

### 2. Remedy of defects during the year without service of formal Notices :—

- Number of defective dwellinghouses rendered fit in consequence of  
informal action by the Local Authority or their officers..... 1,712

### 3. Action under Statutory Powers during the year :—

#### A. Proceedings under Sections 17, 18 and 23 of the Housing Act, 1930 :

1. Number of dwellinghouses in respect of which notices were  
served requiring repairs..... Nil.
2. Number of dwellinghouses which were rendered fit after  
service of formal notices :—
  - (a) by owners..... Nil.
  - (b) by Local Authority in default of owners..... Nil.

#### B. Proceedings under Public Health Acts :

1. Number of dwellinghouses in respect of which notices were  
served requiring defects to be remedied..... 1,586
2. Number of dwellinghouses in which defects were remedied  
after service of formal notices :—
  - (a) by owners..... 1,257
  - (b) by Local Authority in default of owners..... Nil.

## C. Proceedings under Sections 19 and 21 of the Housing Act, 1930 :

- |  |      |
|--|------|
| 1. Number of dwellinghouses in respect of which Demolition Orders were made..... | Nil. |
| 2. Number of dwellinghouses demolished in pursuance of Demolition Orders.....    | Nil. |

## D. Proceedings under Section 20 of the Housing Act, 1930 :

- |   |      |
|---|------|
| 1. Number of separate tenements or underground rooms in respect of which closing orders were made.....  | Nil. |
| 2. Number of separate tenements or underground rooms in respect of which closing orders were determined, the tenement or room having been rendered fit..... | Nil. |

## E. Proceedings under Section 3 of the Housing Act, 1925 :

- |   |      |
|---|------|
| 1. Number of dwellinghouses in respect of which notices were served requiring repairs.....  | Nil. |
| 2. Number of dwellinghouses which were rendered fit after service of formal notices :—  |      |
| (a) by owners.....  | Nil. |
| (b) by Local Authority in default of owners.....  | Nil. |
| 3. Number of dwellinghouses in respect of which closing orders became operative in pursuance of declarations by owners of intention to close..... | Nil. |

## F. Proceedings under Sections 11, 14 and 15 of the Housing Act, 1925:

- |  |      |
|--|------|
| 1. Number of dwellinghouses in respect of which Closing Orders were made.....  | Nil. |
| 2. Number of dwellinghouses in respect of which Closing Orders were determined, the dwellinghouses having been rendered fit..... | Nil. |
| 3. Number of dwellinghouses in respect of which Demolition Orders were made.....   | Nil. |
| 4. Number of dwellinghouses demolished in pursuance of Demolition Orders.....  | Nil. |

## FITNESS OF HOUSES.

No special difficulties have been found in action under the Public Health Acts. The property owners in general show a disposition to comply with the Notices served under these Acts.

The whole of the property in the City is supplied on the constant system with water from the Corporation mains. With the exception of a very few houses in common courts, each house is supplied with an internal water supply.

## BYELAWS.

In general, the existing Byelaws and Local Acts are found to be adequate, and no special difficulties have been experienced in their enforcement.

**Re-housing and Demolition.**

The City and County Borough of Salford (Greengate Area) Clearance Order, 1932.

The City and County Borough of Salford (Chapel Street No. 1 Area) Clearance Order, 1932.

The City and County Borough of Salford (Chapel Street No. 2 Area) Clearance Order, 1932.

The City and County Borough of Salford (Chapel Street No. 3 Area) Clearance Order, 1932.

The City and County Borough of Salford (Chapel Street No. 4 Area) Clearance Order, 1932.

In connection with the above mentioned Clearance Areas, the building of the 180 new houses on Wheaters Field and Gerald Road was commenced in June, 1932. A number of these houses was completed in February, 1933, and the remainder was ready for occupation by the end of April, 1933. The details with respect of the types of houses were fully explained in last year's Annual Report.

As numbers of the new houses were ready for occupation, a corresponding number of tenants of the old houses were notified to be ready to remove to the new houses.

The numbers of persons who removed from the Areas were :—

Greengate Area.....	235
Chapel Street No. 1 Area.....	25
Chapel Street No. 2 Area.....	298
Chapel Street No. 3 Area.....	4
Chapel Street No. 4 Area.....	113

Of these, 403 persons went to houses on Wheaters Field, 261 persons to the Gerald Road houses and 11 persons to Littleton Road.

As evacuation of the old houses took place, demolition was proceeded with by the owners, except in the case of a block of four houses, in which case official action had to be taken to enforce the demolition of the houses. The total number of houses pulled down on the five Areas was 159. This work was completed by the end of the year and the sites are now vacant.

When the housing of the people from the five areas was completed, it was found that there were 20 new houses still unoccupied. Negotiations were at once entered into with the agents of four small blocks of property on one of the insanitary areas in Silk Street, with a view to remodelling these houses instead of a complete demolition, as the land on which these houses are built is too small an area to be of use for any other purpose.

The owners of three blocks of property agreed and submitted plans and the work of remodelling was commenced on two blocks. Nineteen families removed



from these houses, 18 of them going into the new houses and one family finding other accommodation in the neighbourhood. The total number of persons moved into these houses was 47.

With respect to the third block of property, for which plans had been passed, it was found impossible to provide accommodation in the two houses left over for the number of families who would have to be disturbed. This part of the scheme has not been proceeded with, pending the erection of more houses. The keys of the two remaining houses were handed over to the City Treasurer.

The work of remodelling and reconditioning the two blocks of property was carried out at the expense of the owners and the houses have been occupied by tenants selected by the respective owners. During the progress of this work, nine houses were demolished.

TABLE G. 2.

NEW HOUSES ERECTED AND HOUSES DEMOLISHED IN 1933.

Wards.	Houses erected.	Houses demolished.
Kersal.....	40	—
Albert Park.....	96	—
Mandley Park.....	—	—
St. Matthias'.....	—	9
Trinity.....	—	159
Crescent.....	—	—
Regent.....	1	—
Ordsall Park.....	—	—
Docks.....	—	—
Charlestown.....	84	—
St. Thomas'.....	—	—
St. Paul's.....	—	—
Langworthy.....	105	—
Seedley.....	30	—
Weaste.....	26	—
Claremont.....	441	—
	823	168

Six hundred and forty-three of these houses have been built by private enterprise and 180 by the Corporation.

#### Certificates as to Housing Conditions.

Under the terms of the circular letter issued by the City Treasurer, with reference to the issue by the Medical Officer of Health of certificates to the effect that certain families were not living under sanitary conditions, 181 applications have been made and in 125 cases certificates were issued.

TABLE G. 4.

REGISTER OF WORK DONE—YEAR ENDING DECEMBER 31ST, 1933.

No. of Complaints received.....	6848
Inspections of	
Dwellinghouses .....	7876
„ „ (under Housing, &c., Act)...	-
Visits re Unhealthy Areas.....	968
Schools.....	520
Factories .....	27
Canal Boats.....	164
Common Lodging-houses (Day) .....	358
„ „ „ (Night).....	12
Sub-let „ „ (Day).....	1536
„ „ „ (Night).....	372
Seamen's Lodging-houses (Day).....	140
„ „ „ (Night).....	12
Van Dwellings.....	88
Tips.....	58
Bakehouses (Day).....	690
Workshops (Day).....	960
„ (Night).....	264
Domestic Workshops.....	525
Restaurant Kitchens.....	96
Outworkers' Premises.....	192
Ice Cream Shops.....	506
„ Stalls.....	7
Fried Fish Dealers.....	678
Smallpox Contacts.....	48
Diphtheria Contacts.....	270
Scarlet Fever Contacts.....	41
Enteric Fever Contacts.....	5
Miscellaneous.....	5433
Laundries.....	40
Urinals—Public.....	330
Stables.....	627
Re Infectious Diseases.....	1564
Theatres, Cinemas, &c. (Day).....	62
„ „ (Night).....	117



REGISTER OF WORK DONE.—*continued.*

Limewashed	{	Dwellinghouses.....	
		Lodging-houses .....	28
		„ Sub-let... ..	72
		„ Seamen's.....	8
		Bakehouses.....	261
		Workshops.....	50
		Workshops (Domestic).....	4
		Outworkers' premises.....	11
		Laundries.....	3
Newly Licensed Common Lodging-houses.....			13
„	„	Seamen's „ .....	8
Newly Registered	{	Lodging-houses Sub-let... ..	56
		Workshops.....	3
		„ (Domestic).....	1
		Bakehouses.....	1
		Second-hand Goods Stores.....	12
		Ice Cream Shops.....	3
Accumulations Removed	{	Manure and Refuse .....	26
		Stagnant Water.....	2
Manure Receptacles—New, provided.....			2
Smoke Nuisance	{	Observations taken.....	3615
		Notices served.....	14
		Cautionary Notices served.....	20
Passages and Yards	{	Flagged.....	—
		Repaired.....	328
		Drained.....	—
Bundles of Infected Bedding and Clothing	{	Stoved.....	3670
		Destroyed.....	97
Animals removed from improper situations.....			—
Overcrowding of dwellings abated.....			7
Houses repaired by owners, after Formal Notice.....			1714
„	„	„ „ Informal „ .....	1543
Canal Boats painted.....			
„	defective.....		
„	repaired.....		

### **Destruction of Rats and Mice.**

I am indebted to the Director of Public Cleansing, Salford, for the following information, namely :—

As in previous years the work of rat suppression has been carried out by the staff of the Cleansing Department who have used poisoned baits, lime boards, traps and cages and a gassing machine.

During the year 679 visits were made to dwellinghouses, schools, shops, offices, works, stores and other premises, whilst 536 live rats were caught.

In many cases structural repairs to property were rendered necessary due to the damage done by rats to sanitary fittings, floors, etc. These repairs were carried out by the agents and owners of the premises.

Close attention is paid to the controlled tips and depôts of the department and measures are taken to prevent rat infestation.

### **National Rat Week—6th to 11th November, 1933.**

During this week posters were displayed on the hoardings and various public buildings in the City inviting property owners to co-operate in the destruction of rats and rat-proofing premises.

The local press assisted by pointing out the damage done by rats and loss suffered by the community through the destruction of foodstuffs and property.

The publicity obtained in this way helps the department by advertising the fact that assistance and advice are given free of charge to occupiers of premises troubled by rats.

### **(C)—GENERAL PROVISION OF HEALTH SERVICES.**

#### **Hospital Services.**

The people of Salford avail themselves of the hospital accommodation provided by the Salford Corporation and of the voluntarily provided hospitals of both Salford and Manchester. The interleaved tabulation contains particulars of the hospital services available for Salford residents, distinguishing between hospitals provided by the Corporation and voluntary institutions.



STATEMENT AS TO HOSPITAL SERVICES AVAILABLE FOR SALFORD RESIDENTS.											
A. HOSPITALS PROVIDED BY THE SALFORD CORPORATION.											
Name and Situation of Hospital	Purpose.	Services and Number of Beds provided.			Classification and Number of Medical and Nursing Staffs.		Arrangements for Employment of Consultants.	Special Departments.	Arrangements for Surgical Operations	Arrangements for Pathological Examinations.	
		Service.	Beds.		Classification.	No.					
Hope Hospital, Pendleton, Salford	General.	General Medical	Male. 68	Female. 64	132	Medical Superintendent. . . . .	1	Consultants appointed as follows: (a) Visiting Physician. (b) Visiting Specialist in Children's Diseases. (c) Visiting Gynaecologist. (d) Visiting Orthopaedic Surgeon.	X-Ray. Massage. Electro-therapeutics. Ultra-violet radiation. Orthopaedic. Pathological. Electro-cardiographic.	Surgical operations for all classes of cases are performed at the Hospital.	All pathological material examined either in the Municipal Laboratory or in the Hope Hospital Laboratory under direction of City Pathologist.
		General Surgical	62	45	107	Deputy Medical Superintendent. . . . .	1				
		Children	..	..	164	Anaesthetist and Radiologist. . . . .	1				
		Maternity	..	75	75	Resident Medical Officer. . . . .	1				
		Tuberculosis	34	..	34	Resident Surgical Officer. . . . .	1				
		Chronic Sick	99	177	276	Assistant Medical Officers. . . . .	4				
		Mental	70	107	177	Matron and Nursing Staff. . . . .	238				
		Veneral	..	6	6						
		Infectious Diseases (Children)	..	..	11						
		Tonsils and Adenoids (Children)	..	..	16						
		Puerperal Pyrexia	..	9	9						
		Orthopaedic	33	6	39						
		Gynaecological	..	32	32						
		Observation	..	..	7						
		Total	..	..	1,085						
Adywell Sanatorium, Pendleton, Salford.	Infectious Diseases	Ordinary Infectious Diseases	36	36	72	Medical Superintendent. . . . .	1	Consultants appointed as follows: (a) For cases of Puerperal Fever and Pyrexia. (b) Visiting Aural Surgeon. (c) Other Consultants called in as required.	..	Surgical operation for affections of the ear, nose and throat are performed at the Sanatorium.	Pathological examinations are carried out at the Municipal Pathological Laboratory.
		Tuberculosis	..	7	7	Assistant Medical Officers. . . . .	2				
		Puerperal Fever and Pyrexia	..	..	..	Matron and Nursing Staff. . . . .	66				
		Total	..	..	296						
Lab Top Sanatorium, Marple, Cheshire.	Tuberculosis	..	62	58	120	Medical Superintendent. . . . .	1	..	X-Ray.	No facilities provided. Cases requiring surgical treatment are transferred to other institutions.	..
		..	..	..	..	Matron and Nursing Staff. . . . .	15				
Maternity Home and Babies' Hospital, Pendleton, Salford.	Maternity Cases and Sick Infants	Maternity	..	11	11	Medical Officer (part time). . . . .	1	Consultant appointed for cases of Puerperal Fever and Pyrexia.	Artificial Sunlight.	No facilities provided. Cases requiring surgical treatment are transferred to Hope Hospital.	..
		Infants	..	16	16	Matron and Nursing Staff. . . . .	15				
		Total	..	..	27						
Linkwater Park Hospital, Prestwich.	Smallpox Isolation Hospital	..	24	24	48	Staffed as required.	..	..	..	..	..
Total Number of Beds provided by Salford Corporation			..	..	1,576						

B.—VOLUNTARY HOSPITALS SITUATED IN SALFORD.

Name and Situation of Hospital.	Purpose.	Services and Number of Beds provided.				Special Departments.
		Service.	Beds.			
Salford Royal Hospital, Salford.	General.....	General Surgical.....	Male. 87	Female. 88	Total. 175	X-Ray. Orthopaedic. Massage. Ear, Nose and Throat. Genito Urinary. Cardiographic. Pathological. Artificial Sunlight. Physiotherapeutic. Dental. Opbthalmic. Gynaecological. Pre-mental.
		General Medical.....	31	33	64	
		Skin and Genito-Urinary....	4	4	8	
		Children's Cots, Medical and Surgical.	...	...	13	
		Observation Beds.....	...	...	3	
		Total.....			263	
Greengate Hospital and Open Air School.	*Children.....	Rickets .....	...	...	30	Massage.
Total number of beds provided by Voluntary Hospitals in Salford .....					293	

\* Out-Patient Department for Men, Women and Children also provided.

C.—VOLUNTARY HOSPITALS SITUATED OUTSIDE SALFORD BUT USED BY SALFORD RESIDENTS.

Name and Situation of Hospital.	Purpose.	Services and Number of Beds provided.				Special Departments.
		Service.	Beds.			
			Male.	Female.	Total.	
Manchester Royal Infirmary.	General.....	General Medical .....	88	104	192	X-Ray (with Light Therapy and Deep Therapy). Massage (with Diathermy, Electro-therapy, Radiant Heat, etc.) ; Sunlight.  Electrocardiographic. Surgical Tuberculosis. Pernicious Anæmia. Venereal Diseases. Ophthalmic. Skin Diseases. Neurological Surgery. Orthopaedics. Gynæcology.
		Surgical (including Orthopaedic and Neuro surgical).....	218	147	365	
		Aural.....	9	8	17	
		Gynæcological.....	....	18	18	
		Observation.....	....	....	9	
		Children under 6 (urgencies).....	....	....	13	
		Reserved for Emergency.....	....	....	26	
Total.....				640		
St. Mary's Hospital, Manchester.	Maternity, Gynæcological and Children.	Maternity.....	....	101	101	Radium. Massage. Ante-natal. Artificial Sunlight. Venereal Diseases (Out-Patients only).
		Gynæcological.....	....	112	112	
		Children.....	....	....	50	
		Total.....			263	
Royal Manchester Children's Hospital, Pendlebury, Lancs.	Children.....	Medical .....	....	....	90	X-Ray. Massage (with Electrical and Gymnastic Apparatus). Artificial Sunlight. Orthopaedic. Pathological.
		Surgical.....	....	....	90	
		Isolation.....	....	....	10	
		Total.....			190	
Ancoats Hospital, Manchester.	General.....	General Surgical.....	45	32	77	X-Ray. Massage. Pathological. Cardiographic. Orthopaedic. Genito-urinary. Venereal Diseases.
		General Surgical (Children).....	....	....	15	
		General Medical .....	15	28	43	
		General Medical (Children).....	....	....	6	
		Private Wards.....	....	....	10	
		Total.....			151	
Manchester Victoria Memorial Jewish Hospital, Cheetham, Manchester.	General.....	General Medical.....	11	12	23	X-Ray. Artificial Sunlight. Asthma. Gynaecological. Ear, Nose and Throat. Opthalmic. Massage and Electrical. General Surgical. General Medical.
		Gynaecological.....	....	4	4	
		General Surgical.....	14	14	28	
		Ear, Nose and Throat.....	....	....	14	
		Ophthalmic.....	....	....	4	
		Pay Beds.....	....	....	29	
		Total.....			102	
Manchester Northern Hospital for Women and Children, Cheetham Hill Road, Manchester.	Women and Children.....	Gynaecological.....	....	22	22	Dental. X-Ray. Massage. Artificial Sunlight.
		Children :— Medical .....	....	....	35	
		Surgical .....	....	....	16	
		Total.....			73	
Manchester and Salford Hospital for Skin Diseases, Quay Street, Manchester.	Skin Diseases.....	Skin Cases.....	24	*30	54	X-Ray. Artificial Sunlight. Venereal Diseases. Tuberculosis of Skin. Private Wards.
		Total.....			54	
Manchester Ear Hospital, Grosvenor Square, Oxford Road, Manchester.	Diseases of the Ear, Nose and Throat.	Ear, Nose, Throat and Associated Diseases.....	9	9	18	Children
		Total.....			24	
Dental Hospital of Manchester, Oxford Road, Manchester.	Dental Treatment.....	.....	....	..	Nil.	Conservation. Prosthetic. Orthodontic. Anæsthetic and Extraction. X-Ray. Pathological. Ophthalmia Neonatorum. Sun-Ray. Pathological Laboratory.
Manchester Royal Eye Hospital, Oxford Road, Manchester.	Eye Cases.....	Opthalmic.....	61	60	121	Orthoptic.
		Opthalmic, Children.....	....	....	26	
		Ophthalmia Neonatorum (Mothers and Babies).....	....	....	4	
		Private Patients.....	....	....	9	
Total.....				160		
Christie Hospital and Holt Radium Institute, Withington, Manchester.	Cancer, Pro-cancerant conditions and Chronic Ulceration, Radium treatment	.....	....	....	104	X-Ray Department.

SUMMARY SHOWING INSTITUTIONAL ACCOMMODATION WHICH MAY BE USED BY SALFORD RESIDENTS.

Service.	Institutions provided by Salford Corporation.	Voluntary Institutions in Salford.	Voluntary Institutions outside Salford, but used by Salford residents.	Total.
General Medical	132	64	258	454
General Surgical	107	175	470	752
Children	180	43	325	548
Maternity	86	..	101	187
Tuberculosis	226	..	..	226
Chronic Sick	276	..	..	276
Mental	177	..	..	177
Ordinary Infectious Diseases	228	..	..	228
Puerperal Fever and Pyrexia	16	..	..	16
Smallpox	48	..	..	48
Veneral Diseases	6	..	..	6
Ear, Nose and Throat	16	..	55	71
Gynaecological	32	..	156	188
Skin Diseases, etc	..	8	54	62
Opthalmic Diseases	..	..	160	160
Opthalmia Neonatorum	..	..	4	4
Radium Treatment	..	..	104	104
Observation Beds, etc	7	3	35	45
Orthopaedic	39	..	..	39
Pay Beds	..	..	29	29
Private Wards	..	..	10	10
	1,576	293	1,761	3,630

NOTE.—It should be clearly understood that apart from the accommodation provided by the Salford Corporation, the accommodation referred to in the above summary is available for the residents of Manchester and contiguous areas.



Important additions to voluntary hospital accommodation were made during 1932 as follows :—

St. Mary's Hospital, Manchester.....	27 beds.
Manchester Victoria Memorial Jewish Hospital.....	32 beds.

The new Christie Cancer Hospital and Holt Radium Institute, Withington, Manchester, was opened during 1932. This Hospital contains 74 beds.

### Outdoor Assistance to the Poor.

The amount distributed by way of outdoor assistance to the poor in Salford during the year ending March 31st, 1934, was approximately £130,000.

Particulars relating to the Poor Law Medical Out-relief Districts are set out in the appended tabulation :—

### MEDICAL OUT-RELIEF DISTRICTS.

No. of District.	Area served.	District Medical Officer.
1.	<i>District</i> —Such portion of the former Township of Salford as is comprised within the following boundary :—Commencing at a point in the River Irwell at the Salford Royal Hospital end of the Crescent, easterly along Whitecross Bank and Chapel Street, thence along St. Stephen Street, King Street, Norton Street, and Greengate to the River Irwell at the Salford Bridge ; thence to the left along the River Irwell and the pre-existing Township boundary to the point first named.	Dr. Stanley Hodgson.
2.	<i>District</i> — All that part of the former Township of Salford comprised within the following boundary :—Commencing at Windsor Bridge, and thence along the Manchester, Bury and Bolton Canal to the pre-existing boundary of the Townships of Salford and Pendleton, along such boundary through Peel Park to the River Irwell, along the River Irwell to a point nearest the Crescent, thence along the Crescent and Chapel Street to St. Stephen Street, along St. Stephen Street, King Street, Norton Street, Greengate and Chapel Street to Salford Bridge, to the right along the River Irwell to the Manchester, Bury and Bolton Canal, and along such Canal to the point first named.	Dr. Stanley Hodgson.



MEDICAL OUT-RELIEF DISTRICTS—*Continued.*

No. of District.	Area Served.	District Medical Officer.
3.	<i>District</i> —All that part of the former Township of Salford comprised within the following boundary, viz.:—Commencing at Regent Bridge, along the centre of Regent Road, Trafford Road, and Broadway, to the site of the old Racecourse, thence along the northern boundary of such site to the Manchester Ship Canal, thence along the said Ship Canal and the River Irwell to the point first named.	Dr. S. J. Yeates.
4.	<i>District</i> —Commencing at Windsor at the point dividing the former Townships of Pendleton and Salford, thence along the pre-existing Township boundary to the Manchester, Bury and Bolton Canal, along such Canal in a south-easterly direction to the River Irwell, along the River Irwell to Regent Bridge, thence along Regent Road to Trafford Road, along Trafford Road and Broadway and the north-west side of the site of the old Racecourse to the Manchester Ship Canal, along the said Ship Canal to the boundary of the former Townships of Pendleton and Salford; and thence along such boundary to the point first named.	Dr. S. J. Yeates.
5.	<i>District</i> —The whole of the former Township of Pendleton.	Dr. H. Yearnshaw.
6.	<i>District</i> —The whole of the former Township of Broughton.	Dr. T. Waycott Chaff.

This service is administered by the Public Assistance Committee, and I am informed by the Public Assistance Officer that no changes of note in its administration have occurred since 1st April, 1930.

**Local Government Act, 1929.**

In my report for the year 1930, I outlined the administrative arrangements which were made following the transfer to the Corporation, under the Local Government Act, 1929, of the functions of the former Board of Guardians. These arrangements continued to operate during 1933, and no alterations or developments of note occurred during that year.

Further consultations with representatives of Voluntary Hospitals under Section 13 of the Local Government Act, 1929, did not take place during 1933, as no additional provision for hospital accommodation was made during the year.

## Vaccination.

No primary vaccinations or re-vaccinations were performed by the Medical Officer of Health under the Public Health (Smallpox Prevention) Regulations, 1917, during 1933.

The Public Vaccinators for Salford and their districts are as follows :—

Description.	District.	Public Vaccinator.
Salford (No. 1) District.	Such part of the Township of Salford as is comprised within the following boundary, namely : Commencing at the former Township boundary between Pendleton and Salford at Broad Street ; along Windsor and the Crescent to Oldfield Road ; along Oldfield Road to Regent Road ; along Regent Road to Regent Bridge ; thence in a northerly and westerly direction along the River Irwell to the boundary between the former Townships of Salford and Pendleton near Peel Park ; thence along the boundary between such former Townships to the point first named.	Dr. V. Newton, 227, Oldfield Road Salford, 5.
Salford (No. 2).....	Such part of the Township of Salford as is comprised within the following boundary, namely : Commencing at the boundary of the former Townships of Salford and Pendleton at New Windsor, Salford ; along New Windsor and the Crescent to Oldfield Road ; along Oldfield Road to Regent Road ; along Regent Road to the River Irwell at Regent Bridge ; thence in a southerly and westerly direction along the River Irwell and the Manchester Ship Canal to the boundary between the former Townships of Pendleton and Salford ; thence along the boundary between such former Townships to the point first named.	Dr. S. J. Yeates, 1, Haworth Street, Cross Lane, Salford, 5.



Description.	District.	Public Vaccinator.
Pendleton District (Salford Township).	The whole of the former Township of Pendleton.	Dr. Herbert Yearnshaw, 305, Eccles New Road, Pendleton, Salford, 5.
Broughton District (Salford Township).	The whole of the former Township of Broughton.	Dr. Thomas Waycott Chaff, " Limefield," 194 Broughton Lane, Broughton, Salford, 7.

The Vaccination Officers are as follows :—

District.	Vaccination Officer.
North and South Salford Registration Sub-Districts.	Mr. A. Sharrocks, 143, Regent Road, Salford, 5.
West Salford Registration Sub-District	Mr. C. F. Settle, 14, Broom Crescent, Pendleton, Salford, 6.

Particulars as to vaccinations carried out in Salford during the year 1933 are as follows :—

PARTICULARS AS TO VACCINATION DURING 1933.

District.	No. of cases in birth lists.	No. of certificates of vaccination received, irrespective of district of birth.	No. of certificates of postponement owing to		No. of statutory declarations under Section I of the Vaccination Act, 1907.	No. of certificates of insusceptibility or of having had smallpox.	No. of cases.		No. of entries in list sent to public vaccinator.
			Health of child.	Condition of house.			Parents removed out of district.	Otherwise not found.	
NORTH....	734	826	66		185	1	18	23	318
SOUTH.....	819	922	239		126	6	20	18	389
WEST.....	1,547	1,229	29		269	3	106	20	165
TOTAL.....	3,100	2,977	334		580	10	144	61	872

## SECTION II A.

# Atmospheric Pollution.

This subject continues to receive considerable attention in the Health Department, since atmospheric pollution has an important effect, not only on the local mortality rate, but also upon the incidence of sickness and more particularly of catarrhal conditions affecting the respiratory passages. The excessive local respiratory rate is undoubtedly due in part to the smoke fouled atmosphere which the inhabitants are compelled to breathe. A statistical investigation published in the Annual Report for 1931 demonstrated the close relationship existing between smoke pollution and bronchitis mortality. It was then shown that the average bronchitis death rate in our smoke polluted area was approximately 150 per cent. higher than in Wallasey, thus supporting the view that catarrhal conditions of the respiratory tract are much less dependent on geographical situations than upon artificial conditions, namely, pollution of the atmosphere.

## Our Atmospheric Deposit.

Analysis of the atmospheric impurity collected in the deposit gauges at (1) Peel Park, (2) Ladywell Sanatorium, (3) Drinkwater Park Hospital, and (4) Nab Top Sanatorium, Marple, has again been carried out during the year. It is satisfactory to record a continuation of the improvement noted in the previous year's results, there being a substantial fall in the quantity of such important substances as tar and other carbonaceous matter (soot) as compared with the average for the five years.

The following table gives the actual figures for two Salford Stations and Marple Sanatorium. At the same time are included, for comparison, figures for the same period relating to :

(a) A comparatively clean area (Southport—Hesketh Park), and (b) a smoke polluted area (Newcastle-on-Tyne—Westgate Road).

TABLE A.

MEAN MONTHLY DEPOSIT OF ATMOSPHERIC IMPURITY FOR THE PERIOD APRIL, 1932 TO MARCH, 1933.

The figures represent metric tons per 100 square kilometres.

	Peel Park.	Ladywell Sanatorium.	Marple Sanatorium.	Southport, Hesketh Bank.	Newcastle-upon-Tyne, Westgate Road.
	Five years' 1932-33 average	Five years' 1932-33 average	Five years' 1932-33 average	Five years' 1932-33 average	Five years' 1932-33 average
Insoluble matter.					
Tar.....	51	43	21	5	26
Other Carbonaceous Matter...	255	227	179	72	296
Ash...	494	342	119	91	371
Loss on Ignition....	166	130	111	104	225
Ash....	301	218	121	155	342
Total Solids...	1,282	959	552	426	1,262
Included in Soluble matter.					
Sulphates.....	184	128	94	53	183
Chlorine.....	126	114	72	70	50
Ammonia.....	5	6	5	2	8

Expressed in English standards of measurement, the improvement shown in the above tabulation may be exemplified thus—

Whilst the average yearly deposit of atmospheric solid matter in Peel Park for the past five years was at the rate of 386 tons per square mile, the total deposit for the last of these years (namely 1932-33) was at the rate of 261 tons per square mile. This improvement is most striking in the case of tar and soot, and it is evidently not confined to Salford, as the other northern industrial town (Newcastle-on-Tyne) included in the above table also shows a striking improvement.

Such a substantial fall in the amount of tar and soot deposit sounds almost too good to be true, and is rather difficult to explain, seeing that no solid substitute for raw coal is yet available on the big scale. It is quite true that a good deal of gas coke is burned in Salford, and that also, in the new housing and re-housing schemes, gas and electric cookers have taken the place of the old-fashioned kitchen range (a great sinner in the matter of smoke pollution), but we have only touched the fringe of the much desired reform as yet.

#### pH Value and Acidity of Atmosphere.

The most recent figures supplied by those areas engaged in investigating the above, fully confirm previous results respecting the extraordinary and constant acidity of the local atmosphere. Whilst in London the acidity is relatively low and generally absent altogether in the summer months June, July and August, Lancashire areas, as represented by Salford and Burnley, show relatively high acidity throughout the year. Although the Salford figures in this respect are outstanding, there is some satisfaction in being able to record a gradual decline during the last two years: this fall is shown in the appended Table B.

**TABLE B.**

ATMOSPHERIC ACIDITY MEASURED AT SALFORD OBSERVATION STATIONS DURING THE PAST THREE YEARS.

Station.	Acidity in terms of Sulphuric Acid deposited per square mile per annum. (April 1st to March 31st.).		
	Year 1930-31.	Year 1931-32.	Year 1932-33.
Drinkwater Park Hospital.....		*22.9	16.3
Ladywell Sanatorium.....	22.0	20.6	19.4
Peel Park.....	20.8	13.8	19.4
Marple Sanatorium (Cheshire).....	14.8	11.4	8.9

\*Deposit gauge transferred from Regent Road to Drinkwater Park, April 1st, 1931.

An unfortunate error occurred in connection with the acidity figures for 1931-32 published in the Annual Report for 1932; these should be disregarded.



From the above tabulation it will be noticed that, with the exception of Peel Park Station, there has been a steady fall in atmospheric acidity since the year 1931. Even so, the acidity of the local atmosphere is still outstanding in degree, and remains at a considerably higher level than that of any other station taking these observations; and it is moreover present in every month of the year, both winter and summer. It no doubt takes origin from the quantity of sulphur present in the raw coal which is burned so extensively throughout the thickly populated industrial area of which Salford is a part.

The sulphurous character of the local atmosphere is no doubt largely responsible for the prevalence of catarrhal conditions and the very high bronchitis mortality of the area.

#### Light Measurement.

The measurement of daylight by the Potassium Iodide method has been continued during the year 1933 at four observation stations, namely, Regent Road, Drinkwater Park, Ladywell Sanatorium, and Nab Top Sanatorium, Marple. The results are set forth in tabular form on page 151 of this report (City Analyst's Section), where also the amount of daylight received during the past five years is given for each station.

The average figure for the five years shows that the amount of daylight received at Nab Top Sanatorium is approximately 25 per cent. greater than that received at Regent Road.

#### Measurement of Direct Sunlight.

During the year 1933, Salford (Regent Road) received 982.8 hours of Bright Sunshine, as measured by the Campbell Stokes instrument. Through the kindness of Mr. Joseph Baxendell, Borough Meteorologist of Southport, I am able to give a comparison of the amount of Bright Sunshine received in Salford with that received in more favoured situations, as follows:—

Area.	Hours of Bright Sunshine during the year 1933.
Salford (Regent Road).....	982.8
Wallasey.....	1568.7
Southport.....	1617.9
Ventnor.....	2150.2

The above shows the marked inferiority of Salford in this respect, even when compared with stations in approximately the same latitude, namely Wallasey and Southport. This inferiority is still more marked if we compare the figures for the darkest months of the year, namely, January, November, and December.

Area.	Hours of Bright Sunshine.			
	January.	November.	December.	Total.
Salford (Regent Road).....	2.4	16.2	5.3	23.9
Wallasey.....	60.4	51.4	23.9	135.7
Southport.....	62.4	55.8	28.2	146.4
Ventnor.....	72.9	96.4	57.3	226.6

Thus, for the three darkest months of the year, Southport and Wallasey had approximately six times the amount of Bright Sunshine measured at Salford, and Ventnor had approximately ten times that amount.

#### Measurement of Ultra-Violet Light.

Observations have been carried out by the Leonard Hill acetone-methylene-blue method, and by Dr. Ashworth's photographic method. Some of the results obtained have been rather puzzling, especially in the case of the photographic method, and it is understood that a new and improved form of apparatus will soon be available.

According to the methylene-blue acetone method of Leonard Hill, the local readings of the quartz tube and of the ordinary glass tube were identical during November and December, 1933. This result would imply that there were *no* biologically active rays penetrating our Salford atmosphere during these two months.

## SECTION III.

## Infectious Diseases.

The number of notifications of cases of infectious disease received during 1933 was 2,706, as compared with 2,470 received during 1932, an increase of 236 cases.

Diphtheria was even more prevalent than during 1932, and the number of notifications of this disease (759) was the highest received in any one year in Salford. A report upon Immunisation against Diphtheria appears on page 98.

After falling to an exceptionally low level in 1932, the incidence of Scarlet Fever increased considerably during 1933, the number of notifications received (582) being much nearer to, although still appreciably less than, the average, and representing an increase of 159 over the number notified in 1932.

Among the remaining notifiable diseases, the principal variations in the numbers of notifications as between the years 1932 and 1933 are as follows :—

	1932.	1933.	Increase.	Decrease.
Erysipelas.....	99	125	26	—
Puerperal Pyrexia.....	23	38	15	—
Primary Pneumonia.....	466	423	—	43
Influenzal Pneumonia.....	43	124	81	—

The excessively high number of notifications of cases of puerperal pyrexia (38) may be traced in the main to an outbreak of puerperal sepsis which occurred in Hope Hospital during March and April, 1933, a special note upon which will be found in the section of this Report dealing with that Institution (page 173).

Details of the number of cases of infectious disease notified are given in Tables 1 and 2 (pages 56 to 58).

The usual methods, described in previous Reports, for the prevention of the spread of infectious diseases were continued. School teachers, in addition, are encouraged to report cases of non-notifiable disease, which are at once investigated by the School Medical Officers. Diphtheria Antitoxin is supplied immediately, free of charge, to any Medical Practitioner who asks for it. A similar arrangement in respect of Scarlet Fever Antitoxin was instituted in May, 1932. These arrangements are used freely by Salford Medical Practitioners.

Cases of infectious disease which cannot be isolated at home are removed to the Corporation's Infectious Diseases Hospital, the Ladywell Sanatorium (for detailed report upon this Institution see pages 77 to 97). The disinfection of premises in which cases of infectious disease have occurred is carried out by a special staff of disinfectors. Bedding and clothing which have been exposed to infection are disinfected at the Corporation's Disinfecting Station at Mode Wheel; details of the work carried out at this Station appear on pages 32 and 33.

TABLE 1. 1.

### CASES OF INFECTIOUS DISEASES NOTIFIED DURING THE YEAR 1933.

NOTIFIABLE DISEASES.	Cases notified in Whole District.							Total Cases notified in each Ward.													Cases removed to Hospital.				
	At All Ages.	At Ages—Years.						Albert Park.	Charlestown.	Claremont.	Crescent.	Docks.	Kersal.	Langworthy.	Mandley Park.	Ordsall Park.	Regent.	St. Matthias.	St. Paul's.	St. Thomas.		Seedley.	Trinity.	Waste.	
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.																		65 and upwards.
Smallpox.....																									
Diphtheria (including Membranous group)																									
Erysipelas .....	759	8	181	481	62	27		34	26	16	66	37	22	68	26	52	77	31	107	102	31	33	31	749	
Scarlet Fever.....	125	5	4	7	13	32	51	9	13	5	15	7	6	7	9	5	9	10	5	7	2	8	8	56	
Typhus Fever.....	582	2	183	358	24	14	1	60	29	12	35	19	44	22	66	57	57	37	39	33	17	36	19	522	
Enteric Fever.....	7		1	1	2	2	1	1	2				1				1	1					1	5	
Continued fever.....																									
Relapsing fever.....																									
Puerperal fever.....	21				9	12		4			3		2	1	2		3			2		4		9	
Puerperal Pyrexia..	38				16	22		4	1	1	5	1		2	3	3	3	6		2	3	3	1	6	
Cholera.....																									
Cerebro-Spinal Meningitis.....	13	3	2	4		3	1	1						1	1	3	2	3		1		1		1	
Acute-Poliomyelitis .....	1			1										1											
Anthrax.....																									
Glanders.....																									
Ophthalmia Neonatorum.....	18	18									4			1	1		1	2	1	1	3	3	2	1	
Pulmonary tuberculosis	464		3	22	133	157	134	15	34	22	46	14	17	17	28	40	38	25	35	43	19	39	33	523	
Other forms of tuberculosis.....	122	2	18	50	37	7	5	8	5	5	12	5	4	5	7	11	9	6	11	11	4	9	11	14	
Malaria.....																									
Dysentery.....	1					1																	1		
Acute Primary Pneumonia.....	423	31	84	56	72	86	74	20	27	27	16	15	18	20	14	21	38	39	30	38	15	49	22		
Influenzal Pneumonia	124		5	8	21	41	40	9	8	9	5	7	8	9	7	3	13	7	13	11	6	3	9	5	
Encephalitis Lethargica.....	2				1	1								2									1		
Acute Poliomyelitis.....																									
Pemphigus Neonatorum.....	6	6											1		1		1			2				1	
Total.....	2706	75	481	988	390	405	306	61	191	136	73	226	105	123	156	165	195	252	167	241	253	97	188	138	1893

SHOWING THE NUMBER OF CASES OF INTERTROUS DISEASE NOTIFIED TO THE HEALTH DEPARTMENT DURING THE YEARS 1883 TO 1933.

[illegible]



TABLE 1. 2. *Continued.*

Year.	INFECTIOUS DISEASES																			Total.					
	+Chicken-pox	Small-pox.	Scarlet Fever.	Diphtheria.	Enteric.	Fever.		Puerperal.	Puerperal Pyrexia	Erysipelas.	Anthrax.	Cerebro-Spinal Meningitis.	Acute Poliomyloritis.	Ophthalmia Neonatorum.	* Measles.	Tuberculosis.		Trench Fever.	Malaria.		Acute Polio Encephalitis.	Acute Primary Pneumonia.	Influenza.	Encephalitis Lethargica.	
						Typhus.	Con-tinned.									Pul-monary.	Non-Pul-monary.								
1908.....	..	..	1341	629	181	..	7	27	..	..	..	..	..	..	..	563	..	..	..	..	..	..	..	2875	
1909.....	..	..	1577	562	138	..	2	26	..	..	..	..	..	..	..	581	..	..	..	..	..	..	..	3068	
1910.....	..	..	909	333	113	..	..	24	..	..	..	..	..	..	..	651	..	..	..	..	..	..	..	2159	
1911.....	..	..	911	375	108	..	1	24	..	..	..	..	29	..	..	714	..	..	..	..	..	..	..	2350	
1912.....	..	..	541	242	76	..	7	26	..	..	1	..	..	..	..	1073	..	..	..	..	..	..	..	2206	
Average 5 years	..	..	1056	428	123	..	3	25	..	..	..	..	..	..	..	716	..	..	..	..	..	..	..	2532	
1913.....	..	4	1224	336	113	..	1	17	..	..	3	4	2	..	..	1206	503	..	..	..	..	..	..	3616	
1914.....	..	1	2336	352	63	..	..	20	..	..	1	3	5	80	..	1126	236	..	..	..	..	..	..	4471	
1915.....	..	1	997	236	84	..	..	23	..	..	..	9	7	97	..	816	195	..	..	..	..	..	..	2637	
1916.....	..	8	442	204	47	..	..	13	..	..	..	9	1	60	2065	745	241	..	..	..	..	..	..	3959	
1917.....	..	..	200	183	40	..	..	2	..	..	2	2	2	43	3100	575	213	..	..	..	..	..	..	4401	
Average 5 years	..	3	1040	252	69	..	1	15	..	..	1	5	3	70	2582	893	278	..	..	..	..	..	..	3817	
1918.....	..	..	289	148	42	..	..	17	..	..	..	2	2	53	766	556	143	..	..	..	..	..	..	2110	
1919.....	..	4	663	211	20	..	..	32	..	..	..	6	3	85	2689	583	107	2	117	..	..	..	..	5078	
1920.....	..	1	1124	334	49	..	1	40	..	..	..	10	1	116	..	574	120	..	42	..	..	..	..	2791	
1921.....	..	..	1746	313	41	..	2	19	..	..	..	9	..	81	..	553	102	..	11	..	..	..	..	3425	
1922.....	..	..	1275	359	37	..	..	25	..	..	..	4	..	72	..	510	101	..	6	..	..	..	..	2957	
Average 5 years	..	1	1019	273	37	..	1	26	..	..	..	6	1	81	1727	555	115	1	35	..	..	..	..	3272	
1923.....	..	..	868	304	27	..	..	22	..	..	1	5	1	57	..	547	125	..	4	..	..	114	86	8	2268
1924.....	..	..	403	286	26	..	..	18	..	..	..	4	1	56	..	557	87	..	1	..	2	461	138	59	2189
1925.....	..	..	510	376	30	..	..	17	..	..	..	2	1	60	..	507	132	..	1	..	1	409	132	27	3484
1926.....	..	..	720	533	10	..	..	20	12	24	..	3	4	50	..	532	123	..	1	..	4	363	99	13	2651
1927.....	..	1	631	507	9	..	..	7	27	16	..	5	4	48	..	573	148	..	2	..	..	465	158	17	2740
Average 5 years (excluding chicken pox)	..	1	626	401	20	..	..	17	20	20	1	4	2	54	..	543	123	..	2	..	1	362	123	25	2437
1928.....	5	..	822	425	20	..	1	19	28	11	139	13	..	55	..	454	166	..	1	..	1	458	80	12	2709
1929.....	..	..	635	678	9	..	..	16	18	10	150	5	2	35	..	522	112	..	..	..	..	658	168	9	3027
1930.....	7	..	679	736	25	..	1	13	30	6	158	2	..	33	..	454	130	..	..	..	..	422	49	8	2753
1931.....	..	..	478	582	7	..	..	18	25	27	113	4	4	13	..	446	139	..	..	..	..	486	120	3	2461
1932.....	..	..	423	727	16	..	..	23	23	21	99	7	4	16	..	472	124	..	..	..	1	466	43	3	2470
Average 5 years	2	..	607	630	15	..	1	18	25	15	132	6	1	30	..	470	134	..	1	..	1	498	92	7	2684
1933.....	..	..	582	759	7	..	..	21	38	6	125	13	1	18	..	464	122	..	..	..	..	423	124	2	2706

**TUBERCULOSIS DEPARTMENT.****Annual Report for 1933.**

The Tuberculosis Dispensary is situated at Nos. 145 and 147, Regent Road, Salford, and consists of two consulting rooms with waiting and dressing rooms attached, X-Ray and dark rooms and a room set apart and specially fitted up for the performance of Artificial Pneumothorax Refills, Gas Replacements, etc., which is necessary owing to the increasing number of patients undergoing collapse therapy. There are no branch dispensaries or visiting stations. The Staff consists of two Medical Officers, four Health Visitors and three Clerks.

**(a) Patients Referred for Examination.**

Eight hundred and seventy-two (872) patients (including non-pulmonary cases) were referred to the Tuberculosis Officers for examinations by General Practitioners, School Medical Officers, and local Hospitals during 1933. It is to be regretted that, in many cases, primary notifications of tuberculosis are received when the disease is in such an advanced state that no treatment can be of lasting value, but, during the year, the improvement which had taken place during 1930, 1931 and 1932 has continued, and more early and suspected cases have been sent in by the General Practitioners. It is only by the co-operation of the General Practitioners that the Tuberculosis Officers can deal with cases in their earliest and, therefore, most curable stage.

The relations between the General Practitioners of the City and the Dispensary Medical Staff are most cordial and every encouragement is given to send all suspected cases to the Dispensary for examination. A full report of the condition found after physical and X-Ray examination is sent to the Doctor concerned, and it has been possible to give invaluable assistance in diagnosing not only lesions of the chest and other organs caused by tuberculosis, but many other lesions due to some other cause. This is of great value to Practitioners in the treatment of such cases.

Well equipped Dispensaries, staffed by well qualified men, are now being recognised as centres for the diagnosis of all chest diseases, and this is justified by the experience obtained by the Medical Staffs in the physical and X-Ray signs of a varied list of pulmonary conditions. A large majority of the patients referred for examination are seen before notification.

The fact that many cases of pulmonary tuberculosis reach a comparatively advanced stage before notification is very often due to the late period at which the patient seeks the advice of the General Practitioner. It is worthy of note that in a number of Medical Practitioner's reports accompanying such advanced cases to the Dispensary occur the words "I have only seen this patient for the first time a few days ago."

It is a remarkable fact that pulmonary tuberculosis can reach widespread distribution in the lungs without producing symptoms sufficiently striking to cause the person affected to seek advice and it is often difficult to make patients and their friends believe that serious disease is present in the chest.

Improvement in this respect can only be brought about by propaganda work and all opportunities are taken by Tuberculosis Officers to give lectures and talks to various local associations and by window displays at the Health Office to bring before the Public a knowledge of the early signs of tuberculosis.

At the same time it cannot be too strongly emphasised that inadequate medical examination when the patient consults his Doctor is bound to result in failure to recognise tuberculosis at an early or curable stage. It is pleasing to know that the percentage of cases of pulmonary tuberculosis not notified before death is gradually decreasing from year to year (16.73 in 1930, 13.8 in 1931, 10.1 in 1932 and 9.93 in 1933), but it is a regrettable fact that the percentage of fatal cases notified within three months of death during the past year shows a slight increase on the previous year's figures.

There is reason to believe that some patients in a superior social position do not wish the fact that they are suffering from tuberculosis to be known to the public authorities. From time to time efforts are made to bring to the notice of the Medical Practitioners of the City that it is their statutory duty under the Public Health Regulations to notify all cases of tuberculosis as soon as they come to their notice.

A point of first importance, and one that is frequently neglected, is the sending of samples of patient's sputum for examination for the presence of tubercle bacilli in all cases of persistent cough which do not yield early to ordinary treatment.

It is satisfactory to know that definite improvement in the sending of sputa is taking place. Eight hundred and sixty-seven (867) samples of sputum were examined for General Practitioners in 1933, as against seven hundred and fifty-eight (758) in 1932.

All sputum examinations desired by Medical Practitioners are made free of charge at the Municipal Pathological Laboratory and special sterile metal containers are provided for the collection of specimens.

#### **(b) Routine Procedure.**

When a patient is notified to this Department by a Medical Practitioner as suffering from tuberculosis in any form whatever, the home of such patient is immediately visited by one of the Health Visitors. Precautions as to the likelihood of the spread of infection, the desirability of separate sleeping accommodation, etc., are advised, and efforts are made to secure the attendance

at the Dispensary of all contacts residing in the same house. Three hundred and ninety-six (396) such contacts were examined last year. Four of these were found to be suffering from pulmonary tuberculosis and three from non-pulmonary tuberculous disease.

It happens not infrequently that a diagnosis cannot be made on first examination of a patient at the Dispensary, and in all such cases the patients are re-invited to attend the Dispensary periodically until a definite diagnosis is made.

In some cases of advanced disease where removal to an Institution for treatment is impracticable, and adequate nursing is impossible under the patient's home conditions, arrangements are made with the District Nursing Association, and the patients are visited daily (in some cases twice daily) in their homes by a trained nurse. In the case of patients in poor circumstances and recommended by the Tuberculosis Officers as being suitable for the granting of extra nourishment, arrangements are made with milk dealers in the City for milk and eggs to be supplied each day.

The usual types of cases receiving extra nourishment are : (a) patients who have received an adequate course of sanatorium treatment and whose medical condition is such that, with the grant of extra nourishment, they may be expected to maintain or recover full working capacity ; and (b) patients in whose cases ultimate arrest of the disease may reasonably be anticipated, and who are waiting for admission to a sanatorium.

Owing to the continued economic depression during the past year, more cases have had to be assisted with extra nourishment than usual. It is found that when patients are discharged from the Sanatorium where they have been receiving adequate nourishment to homes where the food supply is below normal, they soon begin to lose weight, their resistance is lowered, and the disease is very liable to become active again.

#### (c) X-Ray Examination.

The efficiency of a Tuberculosis Dispensary is greatly enhanced by its equipment with a modern X-Ray installation. A powerful set (100 M.A. single valve unit) is installed at the Dispensary, with all necessary accessories, and X-Ray examinations are made in large numbers.

Every new case sent for investigation is carefully screened after physical examination, and in all cases a skiagram of the chest or other part is taken.

This method of examination is an invaluable aid, not only for purposes of diagnosis, but in obtaining information as to the real extent of the disease in the lungs, bones or joints of the patient. It is also of great value in determining the results of treatment. Two thousand two hundred and thirty



X-Ray examinations were made last year. The recent introduction of paper films which cost only 50 per cent. of the ordinary films is reducing considerably the expense of X-Ray work and for certain purposes they give admirable results. X-Ray examinations have been found of great value to General Practitioners in the differentiation of other chronic diseases of the lung simulating tuberculosis, many of which in the past have been diagnosed as cases of pulmonary tuberculosis. It should also be noted that considerable time is now saved in making a definite diagnosis of chest diseases, and doubtful cases are not required to be kept under observation for periods of longer than one or two months before a final decision can be made.

Much public money and loss of the patients' time is saved also by obviating the sending of suspected cases to the Sanatorium for periods of observation where the physical signs in the lungs simulate those of pulmonary tuberculosis. By means of the X-Rays the differential diagnosis of such cases is made enormously easier.

The great value to the Medical Officers of X-Ray examination of the chest has been markedly shown by the large number of cases gradually removed from the Dispensary Register which had many years ago been diagnosed as cases of pulmonary tuberculosis on physical signs only. This has been possible owing to a more accurate diagnosis by X-Ray examination.

In the X-Ray Department a reducing camera was installed in 1930, and when a radiogram showing tuberculous disease is taken, a reduced sized photographic copy is sent to the General Practitioner. In order that he may have an accurate knowledge of the condition and extent of the disease, careful notes describing the lesions are filled in on the back of the photograph.

Many letters of appreciation have been received from Medical Practitioners regarding this new development, which is undoubtedly of great assistance to the doctor attending the patient.

Advances in the X-Ray diagnosis of diseases of the chest are constantly being made, and one of the latest is the making of stereoscopic skiagrams. A commencement in this direction was made at the Dispensary in 1931 with the installation of a Wheatstone Stereoscope for the examination of films taken by this method.

#### **(d) Treatment by Artificial Pneumothorax.**

The greatest advance of recent years in the treatment of pulmonary tuberculosis is the more universal use of Artificial Pneumothorax or collapse of the lung.

This method of treatment was begun here five and a half years ago, and sufficient experience has now been obtained to warrant considerable confidence in its efficacy in suitable cases.



Primary inductions are carried out both at Ladywell and Nab Top Sanatoria, and more recently at Hope Hospital. Refills are continued there for six months or longer according to the time the patient is able to remain in the Sanatorium.

Usually after six months, in straightforward cases, the patient can return home, and the refills are continued at the Dispensary. Many cases have returned to work and have refills at intervals of two to four weeks, according to absorption of air.

No trouble has been experienced during the past year in obtaining the attendance of patients who are working and the opportunity is taken here to express appreciation of the action of employers in allowing their employees to attend for refills when required. As the collapse of the lung must be kept up for a period of from two to four years the number of patients requiring refills is constantly growing, and a special room is set apart for the Dispensary treatment of those patients undergoing collapse therapy. The room is fitted with all necessary apparatus for refills, gas replacements, etc.

It is a revelation to see the rapid improvement caused in these patients after the lung is collapsed.

The ideal case for this treatment is one in which the disease is confined to one lung only, but those in which there is a small amount of disease in the contra-lateral lung are also suitable. In the latter type of case, it is often found that after collapse of the more diseased side, the lesion on the other side also begins to heal. This is due to the increased resistance of the patient caused by the removal of the toxins from the blood which were previously absorbed from the badly-diseased lung.

Five (5) cases in which the disease in the contra-lateral lung has not improved with collapse of the more diseased side have been treated by injections of Sanocrysin (gold thiosulphate). In this way the advance of the lesion has been prevented and the disease has commenced to fibrose. Marked clearing of the lesion is shown on X-Ray examination.

During the past year a preparation known as Solganol B. Oleosum has been introduced for treatment of cases by Gold Therapy. The great advantage of this preparation is that instead of being injected into a vein, as required for Sanocrysin treatment, it can be injected into the muscular tissue of the buttock. No pain is caused and the more gradual absorption of the gold is said to be advantageous in lessening the liability to certain complications which sometimes occur with Sanocrysin. There are about a dozen patients in Ladywell Sanatorium who have been treated by this preparation during the past year but no definite improvement has been shown.

A few cases of more advanced disease unsuitable for collapse therapy have been treated by Sanocrysin, but no definite benefit has been obtained.

### Analysis of Cases Given Artificial Pneumothorax Treatment.

During the past year forty-five (45) new cases commenced treatment by Artificial Pneumothorax (twenty-three (23) at Ladywell Sanatorium), (twenty (20) at Nab Top Sanatorium) and two (2) at Hope Hospital. Sixty-eight (68) patients continued their refills at the Dispensary, ten (10) of whom are working full time with completely quiescent disease. The number of Artificial Pneumothorax refills carried out at the Dispensary, Ladywell, Nab Top Sanatoria and Hope Hospital during the past year was as follows :—

Tuberculosis Dispensary.....	670
Ladywell Sanatorium.....	306
Nab Top Sanatorium.....	316
Hope Hospital.....	15
Total Number of Refills.....	<u>1,307</u>

Eight (8) patients with tuberculous disease in one lung only who have been undergoing collapse therapy for about three years have apparently recovered and the lung has been allowed to return to its normal position.

### (e) Insured Persons.

Insured patients not in need of Institutional treatment are usually placed on domiciliary treatment, that is to say, they are treated by their own doctors whilst residing at home, and records of progress should be furnished every three months by the attending Medical Practitioners on Form G.P. 86. These patients are examined from time to time by one of the Tuberculosis Officers, and a report furnished to the Practitioner concerned.

### (f) Dispensary Treatment.

Non-insured patients suffering from chronic disease who are unsuitable for Sanatorium treatment or who have received Institutional treatment and are now ambulant, and who are too poor to pay a General Practitioner, are treated at the Dispensary by Cod Liver Oil Emulsions or suitable drugs.

The condition of these persons depends to a large extent on the home conditions, the facilities for obtaining suitable food and the general habits of the patient. Their disease appears to remain stationary for long periods, especially when they are of middle age or over and when the acute stage of the disease is past.

### (g) Primary Tuberculous Pleurisy.

It is again opportune in this report to comment on the above condition.

Many more cases of primary tuberculous pleurisy have been referred by General Practitioners during the past year to the Tuberculosis Officer, who has also been asked to see a considerable number at the Hope Hospital. It may be said that all these patients have received Sanatorium treatment until the disease has become apparently arrested.

Apparently it is now recognised by experienced Tuberculosis workers that the majority of primary pleurises and certainly those with effusion (except a few which may be due to Syphilis or New Growth) should be regarded as due to the Tubercle Bacillus and the patient given adequate treatment before returning to work.

Samples of the effusion from the cases of primary pleurisy passing through our hands have been submitted to the laboratory for guinea pig inoculation and the great majority have been returned positive.

In former years many patients who had suffered from primary pleurisy at some previous date returned to work after a few weeks' treatment at home, and all of them developed active disease in one or both lungs after a varying interval of time. It is evident that the disease had been latent over this period, and owing to the patients' resistance becoming lowered in some way the Tubercle Bacillus had again become active.

We are of opinion that all patients with primary tuberculous pleurisy should undergo Sanatorium treatment until all X-Ray evidence of the disease has disappeared. This will, as far as is possible, prevent the development of active pulmonary tuberculosis at a later date.

#### (h) Non-pulmonary Tuberculosis.

The total number of primary and informal notifications of non-pulmonary or surgical tuberculosis received during 1933 was one hundred and twenty-two (122), (fifty-two (52) adults and seventy (70) children of school age). These are made up of cases suffering from disease of glands, bones, joints, abdomen, meninges and other forms. The large majority of these patients are not seen at the Dispensary as they are usually sent direct by the General Medical Practitioners to the local Hospitals for diagnosis and treatment. A certain number are sent in the first instance to the Dispensary by General Practitioners when the diagnosis is doubtful and in the case of children many are referred by the School Medical Officers.

Cases requiring surgical treatment are sent by the Dispensary Medical Officers to Salford Royal Hospital or to the Municipal Hospital. Where Sanatorium treatment is likely to be of benefit the patients are sent by the Tuberculosis Officers and at the request of Hospital Medical Officers to Nab Top Sanatorium. When considered suitable, patients are referred for treatment at the Artificial Sunlight Clinic.

### EXAMINATION AND TREATMENT OF CHILDREN DURING 1933.

#### (a) Contacts.

During the year 1933, two hundred and two (202) children were examined as contacts at the Tuberculosis Dispensary.

None was found to have Pulmonary Tuberculosis, but three cases of non-pulmonary disease occurred.

**(b) Pulmonary Disease in Children.****1. TUBERCULOUS.**

Fifty-three (53) children of school age were referred to the Dispensary in 1933 for examination of the chest by the School Medical Officers, General Practitioners and Medical Officers of local Hospitals and Dispensaries.

Eleven (11) children were diagnosed as suffering from tuberculous disease of the chest. Of the above eleven cases, six (6) came from homes in which a positive adult case of pulmonary tuberculosis had occurred during the past two or three years.

The adult type of pulmonary tuberculosis is rare in children of school age and only two patients were found to be suffering from this type. Each had definite physical and X-Ray evidence of the disease with a positive sputum. One other patient was a case of tuberculous pleurisy with effusion and was positive on guinea pig inoculation. Three patients showed hilar gland infection on X-Ray examination, and five patients with negative sputum were found to be suffering from pulmonary tuberculosis based on physical and X-Ray examination.

Ten (10) of the above children were admitted for treatment at Nab Top Sanatorium. At the Sanatorium there is an Open-Air School in which all children under treatment can continue their education as soon as they are considered fit to attend by the Medical Superintendent.

**2. NON-TUBERCULOUS.**

Chronic non-tuberculous pulmonary disease in children is very common and is usually a sequela of an attack of pneumonia or generalised bronchitis following measles or whooping cough. It should be recognised that measles in particular is liable to cause marked alteration in the epithelium of the bronchial mucosa and the stroma of the lungs which is followed by fibrotic changes. Broncho or lobar pneumonia in children frequently fails to resolve completely and goes on to produce pulmonary fibrosis.

These children are extremely susceptible to the polluted atmosphere of industrial towns and easily take cold, resulting in recurrent attacks of bronchitis. The pulmonary fibrosis is increased and finally bronchiectasis may supervene. A considerable number of these children are referred to the Tuberculosis Medical Officers for physical and X-Ray examination of the chest because the physical signs resemble those of tuberculous lung disease. Many of these children find considerable benefit by attending an Open-Air School and we have also found that treatment at the Artificial Sunlight Clinic is useful in increasing their resistance.



**INSTITUTIONAL TREATMENT.****(a) Nab Top and Ladywell Sanatoria.**

The residential institutions in connection with the Tuberculosis scheme are :

(a) Nab Top Sanatorium, Marple.

(b) Ladywell Sanatorium, Salford.

There are 120 beds available at the Nab Top Sanatorium, Marple, for the treatment of Salford patients. These beds are occupied principally by observation, early, and intermediate cases of pulmonary tuberculosis. Occasionally, however, cases of surgical tuberculosis are admitted for treatment. Twelve of the beds which are in rather exposed shelters are not used during the six winter months.

At the Ladywell Sanatorium there are 72 beds set apart for the treatment of tuberculosis. Many cases are being admitted to the Ladywell Sanatorium while the temperature remains above normal; subsequently, on becoming afebrile, they are transferred to the Nab Top Sanatorium, Marple, for open-air sanatorium treatment. It has been found that many cases of quite moderate severity do badly at an open-air sanatorium such as Nab Top, where they are almost completely in the open air, but when admitted to the Ladywell Sanatorium, in which, while there is an abundance of fresh air, the patient is not actually living and sleeping in the open air, excellent progress is made, and the patient's temperature rapidly falls. Numbers of these patients have been transferred from the Nab Top Sanatorium, where they had been in bed continually for several months with no apparent improvement, and on transfer to the Ladywell Sanatorium immediate improvement with a fall of temperature has been noticed. It is, consequently, of great value to have two Institutions of different type for the treatment of pulmonary tuberculosis.

The Ladywell Sanatorium is also largely used for the isolation of advanced cases; such isolation is undoubtedly of great value in lessening the danger of massive infection in the homes, but is detracted from by the difficulty of keeping the patients in hospital indefinitely.

Owing to the increasing number of cases requiring treatment by Artificial Pneumothorax a certain number of beds in Ladywell Sanatorium have had to be utilised during the past few years for this type of case. The Medical Superintendent at Nab Top Sanatorium, Marple (where there is no Assistant Medical Officer), has not been able to cope with the whole number of patients requiring collapse therapy. Consequently, twenty-three (23) patients have undergone this form of treatment at Ladywell Sanatorium and have progressed equally as well as those at Nab Top Sanatorium.

**(b) Treatment of Tuberculous Skin Diseases.**

Special arrangements have been made with the Manchester and Salford Hospital for Skin Diseases for the treatment of lupus and other tuberculous skin lesions. A large number of these cases were approved for Artificial

Sunlight treatment and there is no doubt that this method has a very beneficial effect on the lesions, recovery being much more rapid than in cases treated by local applications only. It is, however, necessary in order to obtain the maximum benefit that the patients should attend daily for Artificial Sunlight treatment. Unfortunately, some patients who are working are unable to do this and, where possible, we have been able to accommodate these at our own Artificial Sunlight Clinic.

The number of visits paid by patients to the Skin Hospital for Artificial Sunlight treatment during 1933 was one thousand seven hundred and twelve (1,712), the total number of tuberculous skin cases treated was forty-five (45), and the total number of attendances at the Skin Hospital two thousand one hundred and one (2,101).

It has been decided in the near future to enlarge the Light Clinic by the addition of a second Carbon Arc Lamp and it is proposed to treat all cases in our own Clinic including all Salford cases referred by the Manchester and Salford Skin Hospital for treatment by Artificial Sunlight.

#### GENERAL REMARKS.

The powers contained in the Salford Corporation Act, 1920, and the Public Health Act, 1925, for the compulsory removal to hospital of persons suffering from pulmonary tuberculosis have not been utilised up to the present time.

It has been found that in obstinate cases of advanced disease it is sufficient to warn the patient that compulsory powers can be put in force on application to a magistrate.

No action has been necessary under the Public Health (Prevention of Tuberculosis) Regulations, 1925, in connection with tuberculous employees in the milk trade.

Three sessions per week have been allotted to the Tuberculosis Department for the treatment of cases of surgical tuberculosis in the Artificial Sunlight Clinic. Great improvement has been noted in cases of tubercular gland disease in which open sinuses have been present. These have derived very great benefit, and the sinuses, which in some cases had been discharging continuously for six months to two years, have definitely closed, and the patient's general health has been very greatly improved. Several cases of tuberculous joint disease have also been submitted to this treatment, but so far do not show any marked signs of improvement. No cases of pulmonary tuberculosis have as yet been given treatment by ultra violet rays.

Arrangements have been made to allot two further sessions of the Light Clinic to the Tuberculosis Department during 1934, making five sessions per week. This will allow of more adequate treatment being given to those patients who are able to attend daily.



**TABLE 1.**  
SUMMARY OF WORK DONE AT THE TUBERCULOUS  
DISPENSARY IN 1933.

[illegible]

TABLE 2.

SHOWING PERIOD ELAPSING BETWEEN NOTIFICATION AND DEATH  
IN FATAL CASES OF PULMONARY TUBERCULOSIS.

	Number.	Per-centage.
Not Notified before death.....	24	9.93
Notified within three months of death.....	58	24.05
„ from three months to one year before death....	49	20.46
„ from one year to two years before death.....	36	14.91
Over two years.....	74	30.65

Total number of deaths, 242.

Ratio of non-notified cases to total fatal cases, 24- 242.

TABLE 3.

NEW CASES AND MORTALITY DURING 1933.

Age Periods.	New Cases.				Deaths.			
	Pulmonary.		Non-Pulmonary.		Pulmonary.		Non-Pulmonary.	
	M.	F.	M.	F.	M.	F.	M.	F.
0.....	.....	.....	2	.....	.....	.....	1	.....
1.....	1	2	8	10	1	1	3	4
5.....	6	5	16	12	.....	.....	2	1
10.....	4	7	10	12	1	.....	3	2
15.....	23	38	6	10	11	14	2	1
20.....	30	41	6	4	12	17	4	1
25.....	49	43	4	7	27	23	2	1
35.....	37	29	2	1	29	20	2	1
45.....	62	15	3	1	43	4	3	2
55.....	46	11	4	1	28	5	4	2
65 and upwards.....	9	6	2	1	5	1	1	.....
Totals.....	267	197	63	59	157	85	27	15

TABLE 4.

OCCUPATIONS OF THE 464 CASES OF PULMONARY TUBERCULOSIS NOTIFIED.

## MALES.

1. Joiners, House Decorators and Building Trades .....	11	15. Post Office Workers.....	2
2. Carters and Hawkers .....	8	16. Dyers and Bleachers.....	3
3. Labourers and Navvies.....	58	17. Employees in Motor Trades	10
4. Railway Workers.....	8	18. Porters .....	2
5. Clerks and Typists .....	10	19. Brewery Workers .....	3
6. Makers of Wearing Apparel.	7	20. Warehousemen.....	4
7. Colliers .....	4	21. Packers.....	6
8. Mechanics and Engineering Workers.....	42	22. Scholars.....	13
9. Seamen.....	4	23. Tramway Workers .....	1
10. Plumbers.....	2	24. Confectioners.....	1
11. Printers and Bookbinding Trades .....	6	25. Insurance Agents.....	2
12. Shop Assistants.....	3	26. Chemists .....	2
13. Cotton Workers.....	10	27. Boot and Shoe Repairers....	4
14. Electricians.....	2	28. Miscellaneous Occupations	20
		29. No Occupation.....	19
			267

## FEMALES.

1. Clerks and Typists .....	3	11. Packers.....	3
2. Makers of Wearing Apparel.	34	12. Waitresses.....	2
3. Shop Assistants.....	3	13. Scholars.....	15
4. Cotton Workers.....	19	14. Miscellaneous Occupations..	25
5. Wire Workers.....	2	15. No Occupations.....	7
6. Housewives.....	65	16. Printers and Bookbinding Trades .....	3
7. Charwomen and Laundresses	7		
8. Confectioners.....	2		
9. Boxmakers.....	4		
10. Domestic Servants .....	3	Total.....	197

During the year 1933, 122 new notifications of non-pulmonary tuberculosis have been received.

The new cases of non-pulmonary tuberculosis notified are classified in the following table :—

	Glands.	Bones.	Abdomen.	Skin.	Meninges.	Other forms.	Totals.
Under 10 years.....	24	5	8	2	9	2	50
10 to 20 years.....	6	12	14	2	2	1	37
20 to 30 „ .....	....	8	6	2	....	1	17
30 to 40 „ .....	....	3	1	....	....	....	4
Over 40.....	1	6	2	1	2	2	14
Totals.....	31	34	31	7	13	6	122

### NAB TOP SANATORIUM.

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#### Annual Report.

RESIDENT STAFF.—Medical Superintendent, Matron, Home Sister, two Ward Sisters, eleven Nurses, Cook, Laundress, seventeen Maids and Lodge Porter.

NON-RESIDENT STAFF.—Engineer, School-Mistress, Porter, two Gardeners and Labourer.

ACCOMMODATION.—From April 1st to September 30th each year there is accommodation in the Sanatorium for 120 patients (62 adult males, 42 adult females, 8 male children, and 8 female children).

From October 1st to March 31st, accommodation is slightly less, namely 108 (50 adult males, 42 adult females, 8 male children, and 8 female children).

TYPE OF CASE TREATED.—The Sanatorium is used for the treatment of early and intermediate cases of Phthisis.

A few advanced cases who show good resistance to the disease are also treated. A number of "observation" cases are admitted.

LINES OF TREATMENT.—The treatment adopted is chiefly Hygienic—open air, rest and graduated exercise.

On admission, patients, after a period of rest in bed, are put on walking exercise, the distance being gradually increased. Afterwards this is supplemented by light ward work. Those who show a satisfactory resistance are then placed on graduated work, beginning with light gardening work and rising to heavier work such as grass cutting and lawn rolling, wheelbarrow work and digging. Walking exercise is taken round two fields, the circumference of that reserved for women being one-quarter mile, and that for men one-third of a mile.

An increasing number of patients are being treated by means of Artificial Pneumothorax, care being taken to limit the treatment to cases who are really suitable. Last year 20 cases were induced at the Sanatorium and refills carried out; the stay of these patients averaging  $4\frac{1}{2}$  months. In addition refills were carried out on eight patients where the induction had taken place before 1933 making a grand total of refills for 1933 of three hundred and sixteen. On leaving the Sanatorium the refills are continued at the Tuberculosis Dispensary, Regent Road, Salford.

The X-Ray apparatus installed in late 1930 has been of great benefit in this work, as being the controlling agent in spacing the refills in Artificial Pneumothorax cases. In 1933, the X-Ray apparatus was used over 400 times both for controlling these cases and in routine work. Over 200 X-Ray photographs were also taken at the end of ordinary Sanatorium treatment, and these proved very beneficial in ascertaining the amount of improvement effected during the stay here of these patients.

FARM.—A poultry farm maintained on the premises supplies many of the eggs required for consumption. Most of the vegetables used in this Institution are also grown in the grounds of the Sanatorium.

RECREATION.—The dining hall is set apart for the use of patients every week-day from 5 to 6 p.m. and every Saturday evening after supper, where whist and other card games are indulged in. A wireless set is in daily use, each bed being provided with a pair of ear-phones. There is also a loud speaker in the dining hall. Concerts are arranged about once a month from October to April, given by voluntary entertainers, and on many occasions during the winter plays have been staged.

There is also a large bowling green and clock golf green for the men, and a bowling and croquet green for women on which varied and interesting competitions are frequently held during the summer months.

CANTEEN.—A canteen has been established in the grounds wherein are sold those articles likely to be used in everyday life.

EDUCATION.—The Medical Superintendent at frequent intervals delivers lectures to the patients on such subjects as "Pulmonary Tuberculosis," "Rules of Health" and "The Care of the Mouth and Teeth." It is hoped that on leaving, patients may carry out the instructions given in these lectures and thus minimise the spread of infection in their own homes.

An open-air school, under the guidance of a competent teacher, has been established for patients under 16 years of age. This has been a boon to those children whose state of health has not permitted them to attend the ordinary school at home. No child is allowed to attend school unless certified physically fit by the Medical Superintendent. It may be of interest to know that during the last two years a large number of prizes have been won by the School Children for educational subjects and handicrafts in competition with children from ordinary Day Schools in the Manchester area.

Appended is a table showing the number of admission, etc., and the number of patient-days during the year 1933:—



TABLE A (Nab Top Sanatorium).

SHOWING THE NUMBER OF ADMISSIONS, ETC., AND THE NUMBER OF  
"PATIENT-DAYS" DURING THE YEAR 1933.

	Total Adults.		Children under 15.			Totals.		
	Males	Females	Males	Females	Both	Males	Females	Both
Number of Patients admitted prior to 1933 who remained in Sanatorium for some part of 1933.....	27	32	11	8	19	38	40	78
Number of "Patient-days" in 1933 for patients admitted prior to 1933 who remained in Sanatorium for some part of 1933.....	2988	3366	1402	792	2194	4390	4158	8548
Total admissions, 1933.....	151	103	15	15	30	166	118	284
Total discharges and deaths, 1933.....	152	116	23	12	35	175	128	303
Number of "Patient-days" for persons admitted during 1933.....	13592	9586	1485	2139	3624	15077	11725	26802
Total number of "Patient-days" for 1933.....	16580	12952	2887	2931	5818	19467	15883	35350
Average number of Patients in Sanatorium each day during 1933.....	45.36	35.7	7.92	10.1	17.93	53.28	45.8	99.08

NOTE. The term "Patient-days" represents the product of the number of patients and the number of days spent by those patients in the Sanatorium.

**TABLE B.**—PATIENTS DISCHARGED FROM NAB TOP SANATORIUM DURING 1933.

Duration of Residential Treatment in Institution.												
Condition at Time of Discharge.	Under 3 Months.			3 to 6 Months.			6 to 12 Months.			Over 12 Months.		
	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.
Pulmonary Tuberculosis.....	Quiescent.....	1	2	...	11	16	2	2	3	11	2	2
	Not Quiescent.....	80	46	5	36	29	...	9	8	2	5	6
	Died.....	...	...	...	...	...	...	...	...	...	1	...
	Totals.....	81	48	5	47	45	2	11	11	13	7	7
Non-Pulmonary Tuberculosis.....	Quiescent.....	...	...	...	...	...	1	...	...	...	...	1
	Not Quiescent.....	1	...	1	1	...	1	...	...	...	...	...
	Died.....	...	...	...	...	...	...	...	...	...	...	...
	Totals.....	1	...	1	1	...	2	...	...	...	...	1
Observation for Purposes of Diagnosis.....							Under 4 weeks.			Over 4 weeks.		
	Tuberculous.....						3	1	3	...	2	1
	Non-Tuberculous.....						1	2	4	...	...	...
	Doubtful.....						4	3	7	...	2	1

## LADYWELL SANATORIUM

TABLE SHOWING THE NUMBER OF ADMISSIONS, ETC., AND THE NUMBER  
OF "PATIENT-DAYS" FOR 1933.

## TUBERCULOSIS CASES.

	Males.	Females.	Totals.
Total Number of Admissions during 1933	158	115	273
Number of Persons Admitted prior to 1933 who remained in Hospital for some part of 1933.....	34	32	66
Total Number of Discharges and Deaths during 1933.....	168	118	286
Patients in Hospital on the 31st December, 1933.....	24	29	53
Number of "Patient-days" for Persons Admitted during 1933.....	8741	8639	17380
Number of "Patient-days" (in 1933) for Persons Admitted prior to 1933 who remained in Hospital for some part of 1933.....	3628	3381	7009
Total Number of "Patient-days" for 1933.	12369	12020	24389
Average Number of Patients in Hospital each day during 1933.....	33.90	32.93	66.83

## LADYWELL SANATORIUM.

## Report for the Year 1933.

At the beginning of the year there were 206 cases remaining in Hospital; these, with the 2,041 admitted during the year, made a total of 2,247 cases under treatment. Of this total 1,838 were discharged, 128 died and 281 were in Hospital at the end of the year. The number of cases treated, 2,247, compares with 2,206 in 1932 and with 2,281.8 the average of the cases treated for the five years ended December 31st 1932.

The cases treated were as follows :—

Scarlet Fever.....	671
Mixed Infections.....	44
Measles.....	5
Enteric Fever .....	7
Diphtheria.....	771
Erysipelas.....	61
Puerperal Fever .....	23
Tuberculosis.....	333
Other Diseases.....	332
	<hr/>
	2,247
	<hr/>

The number of cases admitted from Out-Districts was 329, as compared with 431 in 1932. The daily average number of patients in 1933 was 232.3; the highest being 314 on November 14th and the lowest 185 on June 21st and September 2nd; 2,041 patients were admitted during the year, as compared with 1,960 in 1932 and with 2,028.6 the average for the five years ended December 31st, 1932. The following summary shows the diagnosis of the cases before admission and after observation in Hospital :—

	Diagnosis before Admission.	Diagnosis after Observation.
Scarlet Fever.....	685	625
Mixed Infections.....	12	36
Measles.....	6	5
Enteric Fever .....	11	5
Diphtheria.....	872	707
Erysipelas.....	71	59
Puerperal Fever .....	23	23
Tuberculosis.....	273	267
Other Diseases.....	88	314
	<hr/>	<hr/>
	2,041	2,041
	<hr/>	<hr/>

Details of the alterations in diagnosis will be found in tables 5 and 6, pages 99 and 100. A tabulation of cases classified as "Other Diseases" will be found on page 93.

MIXED DISEASES.—Thirty-five of the patients discharged were found to be suffering from two distinct diseases, as follows :—

Diphtheria and Chicken Pox.....	4
Diphtheria and Impetigo.....	1
Diphtheria and Mumps.....	1
Diphtheria and Scarlet Fever.....	14
Diphtheria and Whooping Cough.....	5
Measles and Scarlet Fever.....	1
Rubella and Impetigo.....	1
Rubella and Whooping Cough.....	1
Scarlet Fever and Chicken Pox.....	4
Scarlet Fever and Pneumonia.....	1
Scarlet Fever and Scabies.....	1
Tuberculosis and Erysipelas.....	1
	<hr/>
	35
	<hr/>

DEATHS FROM MIXED INFECTIONS.—In this group the concurrent affections directly or partially caused a fatal termination in four cases, as follows :—

Diphtheria and Broncho-Pneumonia.....	1
Diphtheria and Tubercular Peritonitis and Enteritis.....	1
Scarlet Fever and Asthma.....	1
Scarlet Fever and Septic Broncho-Pneumonia.....	1
	<hr/>
	4
	<hr/>

The average stay in Hospital for all mixed diseases cases discharged well in 1933, was 55.46 days, and for those that died 5.75 days.

CROSS INFECTION.—The above cases of Mixed Infections, and cases admitted under a wrong diagnosis in which the actual diseases could only be ascertained after a time, gave rise to secondary infections in the wards. Every effort was made to prevent cross infection by careful examination of new patients before admission to the wards, and by employing the usual methods of Dick and Schick tests and immunisation of susceptibles. In spite of these precautions, it has always, and more especially when the wards are full, been difficult to prevent the spread of any infection in the wards in this Hospital, owing to the fact that much too great a proportion of the beds are in large wards and that the isolation accommodation is in proportion quite inadequate. In large wards, in contrast to small wards, the chance of another infection being brought in by new admissions is greatly increased, and a larger number of patients are exposed to the infection once it appears there. The addition of a 20 cubicle block was proposed and approved in 1930, but postponed for economy reasons.



The number of patients discharged in 1933 who contracted another infection was as follows :—

Sent in as :—		Secondary Infection.	
Scarlet Fever .....	Chicken Pox.....	7	
„ .....	Diphtheria.....	11	
„ .....	Diphtheria and Whooping Cough.....	1	
„ .....	Erysipelas.....	2	
„ .....	Mumps.....	5	
„ .....	Whooping Cough.....	1	
Diphtheria.....	Erysipelas.....	1	
„ .....	Mumps.....	9	
„ .....	Rubella.....	1	
„ .....	Scarlet Fever.....	8	
„ .....	Whooping Cough.....	1	
Mixed Infections.....	Mumps.....	3	
Erythema.....	Diphtheria.....	1	
Puerperal Fever .....	Erysipelas.....	2	
		53	

The average stay in Hospital for the 53 cross-infected cases discharged well in 1933 was 72.65 days.

The total number of cases discharged in 1933 was as follows :—

Disease.	Number.
Scarlet Fever.....	574
Mixed Infections.....	35
Measles.....	3
Enteric Fever .....	5
Diphtheria.....	638
Erysipelas.....	51
Puerperal Fever .....	18
Tuberculosis.....	210
Other Diseases.....	304
	1,838

The average stay in Hospital for all cases discharged during 1933 was :— for scarlet fever 36.5 days ; for mixed infections 55.46 ; for measles 14.0 ; for enteric fever 76.4 ; for diphtheria 36.63 ; for erysipelas 30.3 ; for puerperal fever 38.3 ; for tuberculosis 85.15 ; for other diseases 20.24.

DEATHS.— The total number of fatal cases in 1933 was as follows :—

Diphtheria.....	30
Mixed Infections.....	4
Erysipelas.....	6
Puerperal Fever .....	3
Tuberculosis.....	71
Broncho-pneumonia .....	2
Carbuncle.....	2
Cavernous sinus thrombosis.....	1
Cerebro-Spinal Meningitis.....	2
Cystitis and Pyelitis.....	1
Cellulitis and Chicken Pox .....	1
Hodgkin's Disease.....	1
Meningitis.....	1
Septicæmia.....	1
Tuberculosis, L.femur and abdomen.....	1
Whooping Cough.....	1

The average stay in Hospital for all fatal cases, excepting advanced Tuberculosis, was 7.46 days.

The daily average number of patients in Hospital in 1933 was 232.3, as compared with 239.1 in 1932 and with 238.1 the daily average of the numbers in the five years ended December 31st, 1932.

There were remaining in Hospital on December 31st, 1933, 281 cases, as compared with 206 last year. The cases remaining on December 31st, 1933 were :—scarlet fever 97, mixed infections 5, measles 2, enteric fever 2, diphtheria 103, erysipelas 4, puerperal fever 2, tuberculosis 52 and other diseases 14.

Thirty-nine of the cases remaining were from Out-Districts, as compared with 43 the year before.

### DETAILED INFORMATION ABOUT SOME DISEASES.

#### Scarlet Fever.

The number of cases of this disease admitted in 1933 was 625, as against 496 in 1932. 685 cases were certified as having scarlet fever, but in 88 cases the diagnosis had to be revised. In addition, 4 cases admitted as mixed infections, 2 as measles, 20 as diphtheria and 2 as other diseases proved to be scarlet fever. 574 cases were discharged well during the year, as against 487 last year. There were no deaths from this disease.

The type of the disease was mild. Scarlatinal antitoxin was given intramuscularly in 5-10 c.c. doses to all but the very mild Cases. The more important complications were as follows :—

	Cases Affected.	Percentage of Discharged Cases.
Adenitis and Abscess (9).....	138	24.04
Rhinitis and Rhinorrhœa .....	65	11.32
Otorrhœa and Otitis Media.....	49	8.54
Relapse.....	8	1.39

Other complications were as follows :—Albuminuria 5, bronchitis 2, broncho-pneumonia 1, carbuncle 1, enteritis 1, influenza 1, impetigo 2, mastoiditis 3, myalgia 1, nephritis 1, neuralgia 1, paronychia 6, peritonsillar abscess 2, scabies 1, stomatitis 1, tonsillitis 1, vulvitis 1.

Twenty-seven cases contracted another infection whilst in hospital :—chicken pox 7, diphtheria 11, diphtheria and whooping cough 1, erysipelas 2, mumps 5, whooping cough 1.

The average stay in hospital for all cases discharged well was 36.5 days.

The following table indicates the period of residence of the 547 cases of scarlet fever uncomplicated with another disease who were discharged well in 1933:—

Week of Discharge	Number of days in Residence when Discharged.							Number of cases in each Day.							No. of Cases in each week.
Under fourth.....															1
Fourth.....	22	23	24	25	26	27	28	1	1	6	16	12	48		84
Fifth.....	29	30	31	32	33	34	35	59	57	54	34	43	30	22	299
Sixth.....	36	37	38	39	40	41	42	19	15	13	4	10	6	2	69
Seventh.....	43	44	45	46	47	48	49	1	10	6	4	8	2	3	34
Eighth.....	50	51	52	53	54	55	56		6	5	1	1	2		15
Ninth.....	57	58	59	60	61	62	63	4	1	1	1	2	1	2	12
Tenth.....	64	65	66	67	68	69	70		2	1	2	1			6
Over Tenth.....															27
Total Number of Cases .....															547

RETURN CASES.—Information about these is usually obtainable from Salford only. 17 such cases were reported. This gives a return rate of 2.96 per cent. for Salford.

#### Schick Test in Scarlet Fever and Other Diseases.

The following table shows the age distribution of patients suffering from scarlet fever and other disease who underwent the Schick test:—

	Age Periods.												Total
	Under 1 Yr.	1	2	3	4	5	6	7	8	9	10	Over 10	
Positive....	....	....	1	5	3	8	9	13	6	8	5	23	81
Negative .	....	....	....	....	....	5	2	12	15	9	14	53	110
Totals...	....	....	1	5	3	13	11	25	21	17	19	76	191

Immunised: 3 doses 131, 2 doses 57, 1 dose 13.

#### Diphtheria.

707 cases were admitted during the year and 64 remained from 1932; of these 638 were discharged well, 30 died and 103 remained in hospital at the end of the year. 872 cases were admitted certified as diphtheria, but in 170 cases the diagnosis had to be revised; in addition, 5 cases admitted as scarlet fever proved to be diphtheria. The disease was of an exceptionally malignant type as shown by the large number of severe cases. In a large number (63) of the most severe cases part of the antitoxin was given intravenously and in many instances repeatedly.

## TYPE OF DISEASE.

Of the discharged cases, 557 were faucial, 24 laryngeal, 46 nasal, and 5 faucial and laryngeal. There were also 36 cases of bacteriological diphtheria.

**Faucial Diphtheria.**

In 557 cases, including 29 fatal ones, the faucial region of the throat was affected.

MILD.—244 cases were mild, the deposit on the throat being localised to the tonsils with little or no toxæmia. The average amount of serum given was 11,238 units. All these mild cases made a complete recovery. 15 cases had antitoxin before admission.

COMPLICATIONS AND SEQUELAE.—Adenitis 3; albuminuria 1; bradycardia 2; bronchitis 1; carrier 3; cholecystitis 1; dermatitis, rhinitis 1; furuncle 1; otitis media 5; paronychia 1; paronychia, otorrhœa, dermatitis 1; peritonsillar abscess 1; rhinitis 1; sinusitis, rhinorrhœa 1; tonsillitis 6.

One case contracted Scarlet Fever.

MODERATE.—In 150 cases, including 1 fatal case, the membrane was more extensive and was accompanied by toxæmia. The average amount of serum given was 30,819 units to the recovered cases and 32,000 units to the fatal case. 6 cases received antitoxin before admission.

COMPLICATIONS AND SEQUELAE.—Adenitis 1; adenitis, otorrhœa 3; adenitis, albuminuria, conjunctivitis 1; albuminuria 2; albuminuria, tonsillitis 1; bradycardia, tonsillitis 1; conjunctivitis 1; furunculosis 3; herpes facialis, tonsillitis, albuminuria 1; otorrhœa 6; otorrhœa, albuminuria 1; palatal paresis 1; rhinitis 5; rhinitis, furunculosis 1; strabismus, adenitis 1; strabismus, palatal paresis 1; tonsillitis 1.

One case contracted Mumps.

One case contracted Scarlet Fever.

## COMPLICATIONS OF THE FATAL CASE. Convulsions.

SEVERE.—163 cases, including 28 fatal ones, were of the severe type. The average amount of serum given for the 135 cases discharged was 88,164 units and for the 28 fatal cases 146,000 units. 8 cases, including 3 fatal, received antitoxin before admission.

COMPLICATIONS AND SEQUELAE.—Adenitis 11; adenitis, otorrhœa 1; albuminuria 5; arthralgia 1; carrier 1; cycloplegia 1; furunculosis 1; furuncle, otorrhœa, albuminuria 1; laryngitis, bradycardia, adenitis 1; otorrhœa, conjunctivitis, rhinitis 1; ocular paresis, albuminuria 1; otorrhœa, rhinorrhœa, cellulitis 1; paronychia 1; palatal paresis 9; palatal and lower limb paresis 1; palatal paresis, otorrhœa, catarrhal jaundice 1; palatal paresis, adenitis 3; palatal paresis, cervical abscesses 1; palatal and ocular paresis, cervical abscesses, nephritis 1; palatal and ocular paresis, albuminuria, adenitis 1; palatal and ocular paresis, tonsillitis 1; palatal paresis, conjunctivitis 1; palatal paresis, strabismus 1; palatal paresis, albuminuria 4; palatal and pharyngeal paresis, albuminuria 1; palatal and pharyngeal paresis 1; palatal and ocular paresis 2; tonsillitis 1; tonsillitis, laryngitis 1; tonsillitis, albuminuria 1.

One case contracted Erysipelas.

Seven cases contracted Mumps.

One case contracted Rubella.

Five cases contracted Scarlet Fever.

COMPLICATIONS OF FATAL CASES.—Circulatory paralysis 20; circulatory paralysis, adenitis 3; circulatory paralysis, anuria 1;

### Laryngeal Diphtheria.

In 24 cases the larynx was involved.

MILD.—In 20 cases the laryngeal obstruction was slight. The average amount of serum given was 16,800 units.

COMPLICATIONS AND SEQUELAE.—Adenitis 1; furunculosis 1.

MODERATE.—In 2 cases the laryngeal obstruction was moderately severe. The average amount of serum given was 44,000 units.

COMPLICATIONS AND SEQUELAE.—Rhinitis 1;

SEVERE.—In 2 cases the obstruction to the breathing was severe. 1 case required tracheotomy. The average amount of serum given was 66,000 units.

### Faucial and Laryngeal Diphtheria.

In 5 cases, including 1 fatal case, the fauces and larynx were involved.

MODERATE.—The 2 moderate cases received an average of 42,000 units of serum.

COMPLICATIONS AND SEQUELAE.—Nil.



SEVERE.—The 2 severe cases discharged received an average of 56,000 units of serum and the fatal case 16,000 units. Both recovered cases required tracheotomy.

COMPLICATIONS AND SEQUELAE.—Albuminuria, pneumonia 1.

### Nasal Diphtheria.

There were 46 cases of this type.

MILD.—The average amount of serum given to the 45 mild cases was 6,888 units ; 3 cases received antitoxin before admission.

COMPLICATIONS AND SEQUELAE.—Adenitis, rhinorrhœa, otorrhœa 1 ; carrier 2 ; carrier, paronychia 1 ; diabetes, carrier 1 ; otorrhœa 1 ; paronychia 1 ; paronychia, hordeolum 1 ; rhinitis, otorrhœa 1 ; tonsillitis 3.

One case contracted Mumps.

One case contracted Scarlet Fever.

MODERATE.—The 1 moderate case was given 24,000 units of serum.

COMPLICATIONS AND SEQUELAE.—Paronychia, furunculosis 1.

The following table summarises the sites of membrane in the total clinical cases discharged.

Sites of Membrane.	Mild.		Moderate.		Severe.		Total.	
	Recovered	Died	Recovered	Died	Recovered	Died	Recovered	Died
Faucial.....	244	....	149	1	135	28	528	29
Laryngeal.....	20	....	2	....	2	....	24	....
Faucial and Laryngeal.....	....	....	2	....	2	1	4	1
Nasal.....	45	....	1	....	....	....	46	....
Totals.....	309	....	154	1	139	29	602	30

**DIPHTHERITIC PARALYSIS.**—32, or 5.33 per cent. of the clinical cases discharged had paralysis in one form or another whilst in hospital.

**COMPLICATIONS.**—135, or 21.16 per cent. of the recovered cases developed one or more complications. This figure does not include serum rashes.

**TRACHEOTOMY** was performed in 4 instances without any fatalities.

**FATALITY RATE.**—30, or 4.47 per cent. of the clinical cases admitted proved fatal.

**ANTITOXIN.**—29, or 4.55 per cent. of the cases discharged, and 3 of the fatal cases had antitoxin before admission to the hospital. The average amount of serum given in hospital in the recovered cases was 32,131 units and 144,533 units in the fatal cases. In addition, 63 cases, including 21 fatal cases, had part of the serum injected intravenously.

**CROSS INFECTION.**—20 cases contracted other infections whilst in hospital :—Erysipelas 1, Mumps 9, Rubella 1, Scarlet Fever 8, Whooping Cough 1.

**AVERAGE STAY.**—The average stay in hospital for all cases discharged well was 36.63 days and for the fatal cases 6.13 days.

#### Dick Test in Diphtheria.

The Dick test was performed in 552 cases of diphtheria ; 333 of these were positive and 219 negative. The positive reactors were inoculated with scarlet fever prophylactic at intervals of 4 days (500, 2000, 6000, 15000 skin test doses).

		Age Periods.											Totals
	Under 1 Yr.	1	2	3	4	5	6	7	8	9	10	Over 10	
Positive....	....	9	19	28	42	34	29	33	27	21	15	76	333
Negative .	....	4	6	11	15	16	18	16	14	14	24	81	219
Totals.	....	13	25	39	57	50	47	49	41	35	39	157	552

#### Enteric Fever.

11 cases were admitted under this diagnosis, but in 6 instances this had to be revised. 2 cases remained from the previous year. 5 cases were discharged well and 2 were in hospital at the end of the year.

The average stay in hospital for all cases discharged well was 76.4 days.

**COMPLICATIONS.**—Arthritis 1 ; cystitis 1 ; lung abscesses, empyema 1.

### Puerperal Fever.

23 cases were admitted under this diagnosis, but in 1 case this had to be revised ; in addition, 1 case admitted as erysipelas proved to be puerperal fever.

Of the 23 cases under treatment, 18 were discharged, 3 died and 2 were in hospital at the end of the year.

The 18 discharged cases were classified as follows:—Puerperal fever 6, puerperal sepsis 8, puerperal pyrexia 2, septic abortion 2. The 3 fatal cases succumbed from septicæmia.

The average stay in hospital for the discharged cases was 38.3 days, and for the fatal cases 8 days.

COMPLICATIONS IN DISCHARGED CASES.—Fibroid 1 ; phlegmasia alba dolens 1 ; pyæmic abscesses 1.

COMPLICATIONS IN FATAL CASES.—Nil.

There were 14 babies admitted with their mothers.

### Erysipelas.

71 cases were admitted as erysipelas during the year, but in 14 instances the diagnosis had to be revised ; in addition, 1 case sent in as scarlet fever and 1 other disease proved to be erysipelas. Of the 61 cases under treatment, 51 were discharged well, 6 died and 4 were in hospital at the end of the year.

The average stay in hospital for the discharged cases was 30.3 days, and for the fatal cases 6.2 days.

COMPLICATIONS OF THE DISCHARGED CASES.—Abscess 2 ; adenitis, abscess 1 ; albuminuria, abscess 1 ; conjunctivitis 1 ; hemiplegia, valvular heart disease 1 ; otorrhœa 1 ; relapse 2.

COMPLICATIONS OF THE FATAL CASES.—Albuminuria, bronchitis, septicæmia 1 ; bronchitis 1 ; cellulitis, septicæmia 1 ; sores, 1

STAFF.—On December 31st, 1933, the resident staff of the Sanatorium consisted of the following:—

Medical Superintendent .....	1
Assistant Resident Medical Officers.....	2
City Bacteriologist.....	1
Matron.....	1
Assistant Matron.....	1
Sister Tutor.....	1
Stores Sister.....	1
Night Sister.....	1
Ward Sisters.....	7
Staff Nurses.....	14
Assistant Nurses.....	12
Probationers.....	32
Domestics.....	38
Laundress.....	1
Lodge Porters.....	2
Total Resident Staff.....	115

The Non-Resident Staff consisted of :—

Visiting Aural Surgeon.....	1
Tuberculosis Officers.....	2
Clerk.....	1
Junior Clerk.....	1
Engineer.....	1
Plumber.....	1
Firemen.....	3
Gardener.....	1
Assistant Gardeners.....	2
Porters.....	5
Seamstresses.....	2
Cleaners.....	2
Total Non-Resident Staff.....	22

HEALTH OF STAFF.—The following were the illnesses :—Adenitis 1 ; appendicitis 2 ; bronchitis 1 ; cholecystitis 1 ; coryza 8 ; diphtheria 5 ; eczema 1 ; Grave's disease 1 ; influenza 8 ; lumbago 1 ; mumps 1 ; neuritis 1 ; otitis media 1 ; otorrhœa 1 ; peritonsillar abscess 2 ; pyelitis 1 ; renal colic 1 ; rheumatism 6 ; rubella 2 ; sore throat 1 ; tonsillitis 6.

The staff lost 996 working days through illness.

The staff, both nurses and maids, have been tested by the Schick and Dick tests, and if positive, immunised against diphtheria and scarlet fever.

54 were Schick tested and 12 were positive ; these were inoculated with three doses of Toxoid at fortnightly intervals ; three months later they were re-tested, and 3 were still positive ; they received one more inoculation and a month later were negative.

53 had the Dick test done, and 10 of these were positive ; they were inoculated with 500, 2,000, 6,000 and 15,000 skin test doses of Scarlatinal Toxin, and of 6, on a re-test a month later, 2 still remained positive ; a further dose was given, and a month after a negative test was obtained.

Two staff-nurses and two probationer-nurses contracted diphtheria in a mild form. The two staff-nurses were Schick tested on joining and gave positive reactions; one had received three doses of Toxoid and two months after the last dose contracted diphtheria, the second had received only one dose of Toxoid at the time of becoming ill. One probationer-nurse was Schick positive and had received only one dose of Toxoid before she contracted diphtheria: the other became ill within a few days of joining and had not been Schick tested. All recovered.

WORK OF THE TRAINING SCHOOL.— During the year 7 passed the Preliminary and 7 the Final State examinations. The usual course of lectures was given by the Medical Staff and the Sister Tutor.

### Operating Theatre.

The number of operations in the theatre was 10, all requiring general anaesthesia; minor operations are not included; numerous incisions were done on the wards, mostly requiring local anaesthesia only.

Particulars of the operations in the theatre are:—

Disease.	Complications.	Operation.	R'cd.	Died.	Total.
Coryza.....	Mastoiditis .....	Mastoid re-opened.....	1	....	1
Diphtheria.....	Carrier.....	Tonsillectomy.....	1	....	1
Diphtheria.....	Otorrhœa.....	Tonsillectomy and Adenoidectomy	1	....	1
Scarlet Fever.....	Otorrhœa.....	Tonsillectomy and Adenoidectomy	2	....	2
Scarlet Fever.....	Mastoiditis .....	Schwartz's operation	2	....	2
Scarlet Fever.....	Mastoiditis Otorrhœa.	Schwartz's operation	3	....	3
			10	....	10

### Bed Isolation Ward.

This ward contains 16 beds. Each patient is nursed separately from the others and nothing which has been in contact with the patient or anything from his bed is allowed to touch any other patient or bed unless it has been sterilised. This sterilisation is done by steam if possible, or by disinfection with Izal. Nurses have to wear separate gowns, and scrub their hands every time they attend a patient.

Free ventilation is also insisted upon.

All kinds of diseases were admitted. The ward was busy all through the year, the demand for isolation being always great.

144 cases were admitted during the year.



The following is a table of the diseases :—

Sent in as—		Diagnosis after observation.	
Scarlet Fever.....	65	Scarlet Fever.....	37
		Adenitis.....	1
		Bronchitis.....	1
		Chicken Pox.....	1
		Diphtheria.....	3
		Erythema.....	1
		Gastritis.....	2
		Lichen urticatus.....	1
		Measles.....	1
		Pneumonia.....	2
		Peridental abscess.....	1
		Rubella.....	4
		Tonsillitis.....	6
		Rubella and Whooping Cough.....	1
		Scarlet Fever and Chicken Pox.....	2
		Scarlet Fever and Diphtheria.....	1
Diphtheria.....	60	Diphtheria.....	31
		Bronchitis.....	1
		Influenza.....	1
		Laryngitis.....	1
		Scarlet Fever.....	3
		Tonsillitis.....	17
		Bronchitis and Scabies.....	1
		Diphtheria and Chicken Pox.....	1
		Diphtheria and Scarlet Fever.....	1
		Diphtheria and Whooping Cough....	2
		Scarlet Fever and Measles.....	1
Erysipelas.....	2	Erysipelas.....	2
Cerebro-Spinal Meningitis.....	3	Cerebro-Spinal Meningitis.....	3
Chicken Pox.....	1	Chicken Pox.....	1
Diphtheria and Chicken Pox.	1	Diphtheria and Chicken Pox.....	1
Diphtheria and Scarlet Fever.	8	Diphtheria.....	2
		Diphtheria and Scarlet Fever.....	3
		Scarlet Fever.....	3
Scarlet Fever and Chicken Pox	4	Scarlet Fever.....	1
		Scarlet Fever and Chicken Pox.....	3
144		144	

TABULATION OF CASES WHICH HAVE BEEN CLASSIFIED AS  
" OTHER DISEASES " AFTER OBSERVATION.

Abscess.....	11	Lichen urticatus.....	1
Adenitis.....	1	Lumbago.....	1
Appendicitis.....	1	Meningitis.....	1
Bronchitis.....	12	Neuritis.....	1
Carbuncle.....	2	Observation cases.....	3
Cavernous sinus thrombosis.....	1	Otitis Media.....	1
Cellulitis.....	1	Otorrhœa.....	1
Cerebral hæmorrhage.....	1	Penphigus Neonatorum.....	1
Cerebro-spinal Fever.....	7	Pharyngitis.....	1
Chicken Pox.....	11	Pink Disease.....	1
Cholecystitis.....	1	Pneumonia.....	7
Colic. Renal.....	1	Pyelitis.....	1
Coryza.....	8	Rheumatic Fever.....	2
Cystitis and Pyelitis.....	1	Rheumatism.....	6
Dermatitis.....	2	Rhinitis.....	1
Eczema.....	2	Rubella.....	10
Encephalitis Lethargica.....	1	Septicæmia.....	1
Enteritis.....	1	Septic Arthritis.....	1
Erythema.....	9	Septic Throat.....	6
Fibrosis.....	1	Sinusitis.....	1
Furuncle.....	1	Sore Nose.....	1
Gastritis.....	4	Sore Throat.....	1
Grave's Disease.....	1	Tonsillitis.....	128
Impetigo.....	1	Vincent's Angina.....	5
Influenza.....	12	Whooping Cough.....	7
Laryngitis.....	16	With mother.....	14

TABLE 1.

STATEMENT OF THE NUMBER OF PATIENTS UNDER TREATMENT IN  
LADYWELL SANATORIUM IN 1933.

		Males.		Females.		Totals.
		Under 5 years.	Over 5 years.	Under 5 years.	Over 5 years.	
1.—PATIENTS REMAINING IN HOSPITAL ON DECEMBER 31st, 1932, AFFECTED WITH:						
Scarler Fever.....		6	14	5	21	46
Mixed Infections.....		2	1	2	3	8
Measles.....		.....	.....	.....	.....	.....
Enteric Fever.....		.....	1	.....	1	2
Diphtheria.....		9	18	8	29	64
Erysipelas.....		.....	1	.....	1	2
Puerperal Fever.....		.....	.....	.....	.....	.....
Tuberculosis.....		.....	35	.....	31	66
Other Diseases.....		3	4	2	9	18
Totals.....		20	74	17	95	206
2.—ADMITTED DURING THE YEAR ENDED DECEMBER 31st, 1933, AFFECTED WITH:						
Scarlet Fever.....		98	193	90	244	625
Mixed Infections.....		12	9	3	12	36
Measles.....		1	.....	1	3	5
Enteric Fever.....		.....	5	.....	.....	5
Diphtheria.....		93	228	89	297	707
Erysipelas.....		5	28	1	25	59
Puerperal Fever.....		.....	.....	.....	23	23
Advanced Tuberculosis.....		.....	152	1	114	267
Other Diseases.....		42	85	45	142	314
Totals.....		251	700	230	860	2041
Totals under treatment, 1933.....		271	774	247	955	2247
3.—OF THE ABOVE THERE WERE DISCHARGED RECOVERED FROM:						
Scarlet Fever.....		86	181	82	225	574
Mixed Infections.....		10	8	4	13	35
Measles.....		1	...	1	1	3
Enteric Fever.....		.....	4	.....	1	5
Diphtheria.....		84	193	78	283	638
Erysipelas.....		2	24	1	24	51
Puerperal Fever.....		.....	.....	.....	18	18
Tuberculosis.....		.....	121	.....	89	210
Other Diseases.....		41	79	43	141	304
Totals.....		224	610	209	795	1838

TABLE I.—continued.  
STATEMENT OF NUMBER OF PATIENTS.—continued.

	Males.		Females.		Totals.
	Under 5 years.	Over 5 years.	Under 5 years.	Over 5 years.	
4.—DIED FROM :					
Scarlet Fever.....	....	....	....	....	....
Mixed Infections.....	3	....	....	1	4
Measles.....	....	....	....	....	....
Enteric Fever.....	....	....	....	....	....
Diphtheria .....	6	6	8	10	30
Erysipelas.....	3	3	....	....	6
Puerperal Fever.....	....	....	....	3	3
Tuberculosis.....	....	43	....	28	71
Other Diseases.....	1	5	3	5	14
Totals.....	13	57	11	47	128
5.—REMAINING IN HOSPITAL ON DECEMBER 31ST, 1933, AFFECTED WITH :					
Scarlet Fever.....	18	26	13	40	97
Mixed Infections.....	1	2	1	1	5
Measles.....	....	....	....	2	2
Enteric Fever.....	....	2	....	....	2
Diphtheria .....	12	47	11	33	103
Erysipelas.....	....	2	....	2	4
Puerperal Fever.....	....	....	....	2	2
Tuberculosis.....	....	23	1	28	52
Other Diseases.....	3	5	1	5	14
Totals .....	34	107	27	113	281

TABLE II.

MONTHLY STATEMENT OF PATIENTS FOR THE YEAR ENDED DECEMBER 31ST, 1933  
TOGETHER WITH A COMPARISON WITH THE YEAR 1932, AND WITH THE MEAN  
OF THE FIVE (5) AND FIFTY (50) YEARS ENDED DECEMBER 31ST, 1932.

Month.	Admissions, 1933.	Admissions, 1932.	Mean of Admissions, 5 years, 1928-1932.	Mean of Admissions, 50 years, 1883-1932.	Daily Average No. of Patients in Hospital, 1933.	Daily Average No. of Patients in Hospital, 1932.	Mean of Daily Average No. of Patients in Hospital, 5 years, 1928-1932.	Mean of Daily Average No. of Patients in Hospital, 50 years, 1883-1932.
January.....	149	174	185.2	120.8	210.0	249.6	233.8	148.6
February.....	150	169	159.2	100.0	216.5	267.2	254.8	141.1
March.....	161	167	179.0	106.9	232.3	265.9	246.4	132.8
April.....	141	161	158.4	100.4	237.0	259.7	240.0	126.4
May.....	158	169	171.0	105.6	220.3	262.6	233.3	124.1
June.....	129	174	153.2	103.4	202.7	246.7	225.3	120.4
July.....	135	147	155.6	111.5	202.5	231.5	224.4	128.6
August.....	149	130	143.4	109.2	194.9	207.3	217.6	130.7
September.....	181	156	166.8	131.5	214.9	204.2	226.0	144.8
October.....	260	193	196.2	154.5	260.1	217.8	240.4	164.5
November.....	225	173	184.8	142.9	300.9	230.2	257.6	175.4
December.....	203	147	175.8	126.3	295.4	226.3	257.7	163.6
Totals.....	2041	1960	....	....	....	....	....	....
M'thly Av'ges....	170.1	163.3	169.0	117.7	232.3	239.1	238.1	141.7



TABLE III.

SHOWING THE NUMBER OF ADMISSIONS OF THE PRINCIPAL INFECTIOUS DISEASES FOR THE YEAR ENDED DECEMBER 31ST, 1933; ALSO A COMPARISON WITH THE YEAR 1932, AND WITH THE MEAN OF THE FIVE YEARS AND FIFTY YEARS ENDED DECEMBER 31ST, 1932.

Month.	Scarlet Fever.	Mixed Diseases.	Measles.	Enteric Fever.	Typhus Fever.	Diphtheria.	Erysipelas.	Puerperal Fever.	Smallpox.	Tuberculosis.	Other Diseases.	Totals.
January.....	29	4	....	1	....	55	3	....	....	20	37	149
February.....	35	3	....	....	....	59	5	....	....	22	26	150
March.....	54	2	....	....	....	49	5	4	....	24	23	161
April.....	43	3	....	....	....	48	6	1	....	22	18	141
May.....	53	3	....	1	....	35	3	3	....	25	35	158
June.....	40	1	....	....	....	40	3	2	....	23	20	129
July.....	43	2	....	....	....	40	2	2	....	24	22	135
August.....	44	4	....	....	....	53	5	1	....	25	17	149
September.....	51	4	1	....	....	66	8	2	....	23	26	181
October.....	76	6	2	1	....	98	6	3	....	28	40	260
November.....	78	2	...	2	....	84	9	2	....	19	29	225
December.....	79	2	2	....	....	80	4	3	....	12	21	203
Totals.....	625	36	5	5	....	707	59	23	....	267	314	2041
Totals, 1932....	496	37	18	18	....	746	53	24	....	235	333	1960
Increase, 1933	129	....	....	....	....	....	6	....	....	32	....	81
Decrease, 1933	....	1	13	13	....	39	....	1	....	....	19	....
Mean of 5 years 1928-1932....	664.6	54.6	20.0	13.0	....	625.4	76.8	24.8	....	279.0	270.4	2028.6
Mean of 50 years— 1883-1932 ...	811.5	6.2	5.2	110.2	4.3	237.8	35.3	11.7	12.1	63.3	136.2	1433.8

TABLE IV.

## ANNUAL STATEMENT.

Disease.	No. of Cases Remaining on Dec. 31st, 1932.	No. of Cases Treated.	No. of Cases Admitted.	No. of Cases Discharged.	No. of Deaths.	No. of Cases Remaining on Dec. 31st, 1933.
Scarlet Fever.....	46	671	625	574	—	97
Mixed Infections.	8	44	36	35	4	5
Measles .....	—	5	5	3	—	2
Enteric Fever ....	2	7	5	5	—	2
Diphtheria.....	64	771	707	638	30	103
Erysipelas.....	2	61	59	51	6	4
Puerperal Fever	—	23	23	18	3	2
Tuberculosis.....	66	333	267	210	71	52
Other Diseases....	18	332	314	304	14	14
Total.....	206	*2247	†2041	1838	128	‡281
Corresponding figures, 1932.		2206	1960	1887	113	206
Average five years .....		2281.8	2028.6	1910.2	130.2	241.4
		From	From	From		
		"Out-Districts."	"Out-Districts."	"Out-Districts."		
1933 .....		*372	†329	‡39		
1932 .....		481	431	43		



TABLE VI.

Sent in as—		After observation—	
Abscess (Peritonsillar).....	2	Abscess (Peritonsillar).....	2
Adenitis.....	1	Adenitis.....	1
Appendicitis.....	1	Appendicitis.....	1
Bronchitis.....	1	Bronchitis.....	1
Cerebro-Spinal Fever.....	4	Cerebro-Spinal Fever.....	4
Chicken Pox.....	7	Chicken Pox.....	7
Colic.....	1	Colic.....	1
Coryza.....	7	Coryza.....	7
Cholecystitis.....	1	Cholecystitis.....	1
Eczema.....	1	Eczema.....	1
Grave's Disease.....	1	Grave's Disease.....	1
Encephalitis Lethargica.....	1	Cerebro-Spinal Fever.....	1
Influenza.....	8	Influenza.....	8
Lumbago.....	1	Lumbago.....	1
Meningitis.....	1	Cerebro-Spinal Fever.....	1
Neuritis.....	1	Neuritis.....	1
Observation—			
Diphtheria contacts.....	2	No results.....	3
Enteric Fever contacts.....	1	Pneumonia.....	5
Pneumonia.....	5	Otitis Media.....	1
Otitis Media.....	1	Otorrhœa.....	1
Otorrhœa.....	1	Pyelitis.....	1
Pyelitis.....	1	Rubella.....	2
Rubella.....	4	Scarlet Fever.....	2
Rheumatism.....	5	Rheumatism.....	5
Sore Throat.....	2	Sore Throat.....	2
Pemphigus Neonatorum.....	1	Pemphigus Neonatorum.....	1
Tonsillitis.....	3	Tonsillitis.....	3
Whooping Cough.....	7	Whooping Cough.....	7
With mother.....	15	With mother.....	14
	—	Erysipelas.....	1
	87		87
	—		—

### Immunisation against Diphtheria.

In my last Annual Report I outlined the policy which was considered to be best suited to local needs for the purpose of immunising the public against Diphtheria. This policy was continued during 1933 with a certain measure of success, for, as will be seen from the figures detailed below, the number of persons who completed the course increased from 488 in 1932 to 1,163 in 1933, and the number of attendances at Clinics and Schools for Immunisation purposes increased from 5,818 to 8,471. The increase was largely due to the special attention focussed upon Diphtheria during the year on account of its extreme prevalence, and it is unlikely that public interest in the protective process will be maintained to a similar extent when the incidence of Diphtheria returns to the normal. It should be mentioned, too, that many of the cases included in the above figures commenced the course towards the end of 1932.

The Schools to which special attention was devoted during 1933 are as follows :—

Blackfriars Road.  
Halton Bank.  
John Street Council.  
St. Ambrose's.  
St. James', Pendleton.  
St. Peter's.  
Seedley Council.  
West Liverpool Street.

It was decided to discontinue holding sessions for Immunisation purposes at the Irlams-o'th'-Height and Langworthy Road Child Welfare Centres in May and September, 1933, respectively, but a session was initiated at the Tenerife Street Centre in January, 1933.

Figures relating to the year's work are appended :—

#### PERSONS COMPLETING THE COURSE DURING 1933.

<i>Place.</i>	<i>No. of Persons</i>
Regent Road Public Clinic	499
<i>Schools :—</i>	
Blackfriars Road	19
Halton Bank .....	255
St. Peter's .....	28
Seedley Council.....	173
	<hr/>
	475
<i>Child Welfare Centres :—</i>	
Irlams-o'th'-Height .....	1
Langworthy Road .....	117
Teneriffe Street .....	59
	<hr/>
	177
<i>Ladywell Sanatorium :—</i> (Patients) .....	131
(Staff) .....	12
	<hr/>
Total .....	1294
	<hr/>



## ATTENDANCES AT CLINICS AND SCHOOLS DURING 1933.

<i>Place.</i>	<i>No. of Persons</i>	
Regent Road Public Clinic	2455	
<i>Schools :—</i>		
Blackfriars Road.....	90	
Halton Bank.....	979	
John Street Council.....	752	
St. Ambrose's .....	214	
St. James' .....	1067	
St. Peter's .....	119	
Seedley Council.....	797	
West Liverpool Street.....	621	
	<hr/>	4639
<i>Child Welfare Centres :—</i>		
Irlams-o'th'-Height .....	133	
Langworthy Road .....	625	
Teneriffe Street .....	619	
	<hr/>	1377
		<hr/>
Total .....		8471

Approximately 300 persons commenced but did not complete the course during 1933.

## SECTION IIIA.

## Venereal Diseases Scheme.

## ANNUAL REPORT, 1933.

Graph No. 1, facing this page, shows that the attendances at the Municipal Clinic during the year 1933, have been less than those during the previous two years.

Owing to the Medical Staff having to undertake an increased amount of pathological work, the Staff Time-table has had to be amended somewhat from that shown in the Report for 1932. It is now as is shown facing page 101.

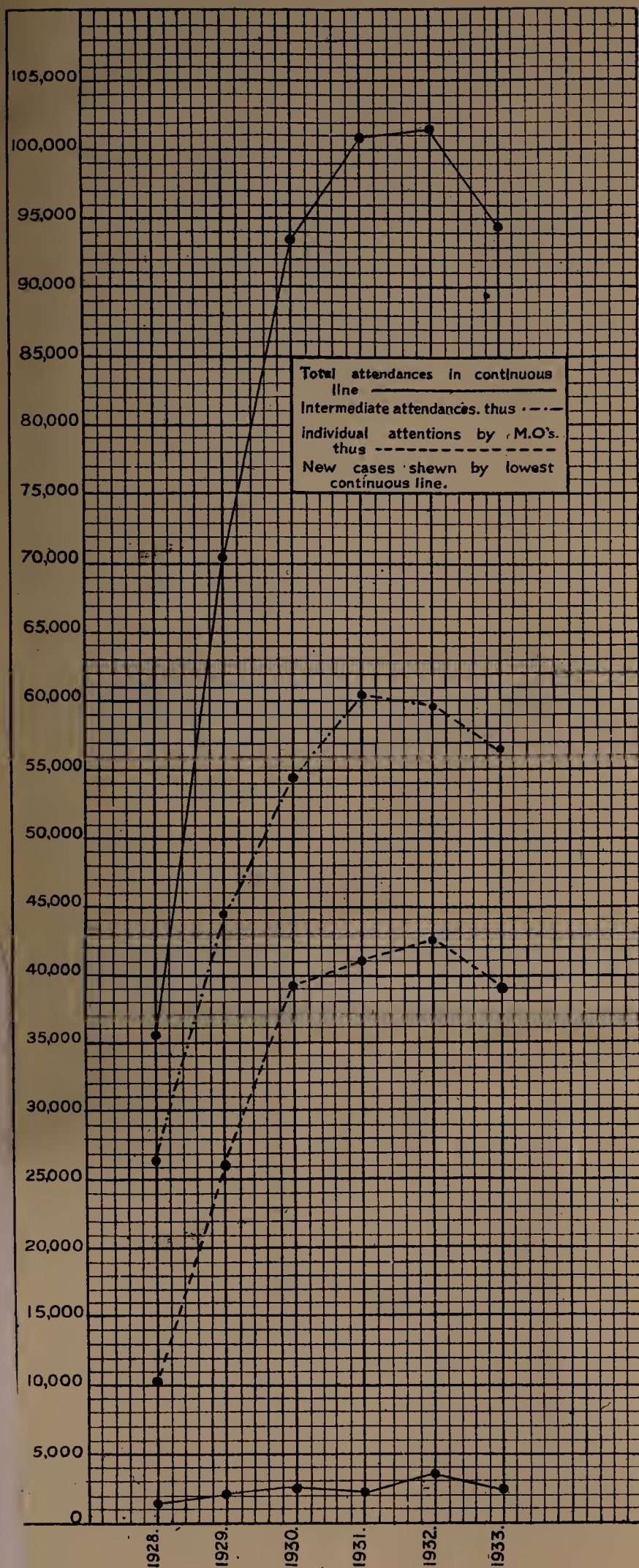
## New Cases.

During the past six years, the total number of new cases exclusive of item 4 of the Annual Return, dealt with was 11,797 as is shown in Table I.

TABLE I.

Year.	Venereal.				Not V. D.	Total, all cases.
	Syph.	Gon.	Chan.	Total V. D.		
1928	266	599	15	880	340	1,220
1929	400	759	20	1,179	736	1,915
1930	437	794	20	1,251	1,075	2,326
1931	392	718	2	1,112	1,071	2,183
1932	434	654	22	1,110	1,044	2,154
1933	308	688	19	1,015	984	1,999
Totals .....	2,237	4,212	98	6,547	5,250	11,797
Average No. per annum.	367	702	16	1,091	875	1,966

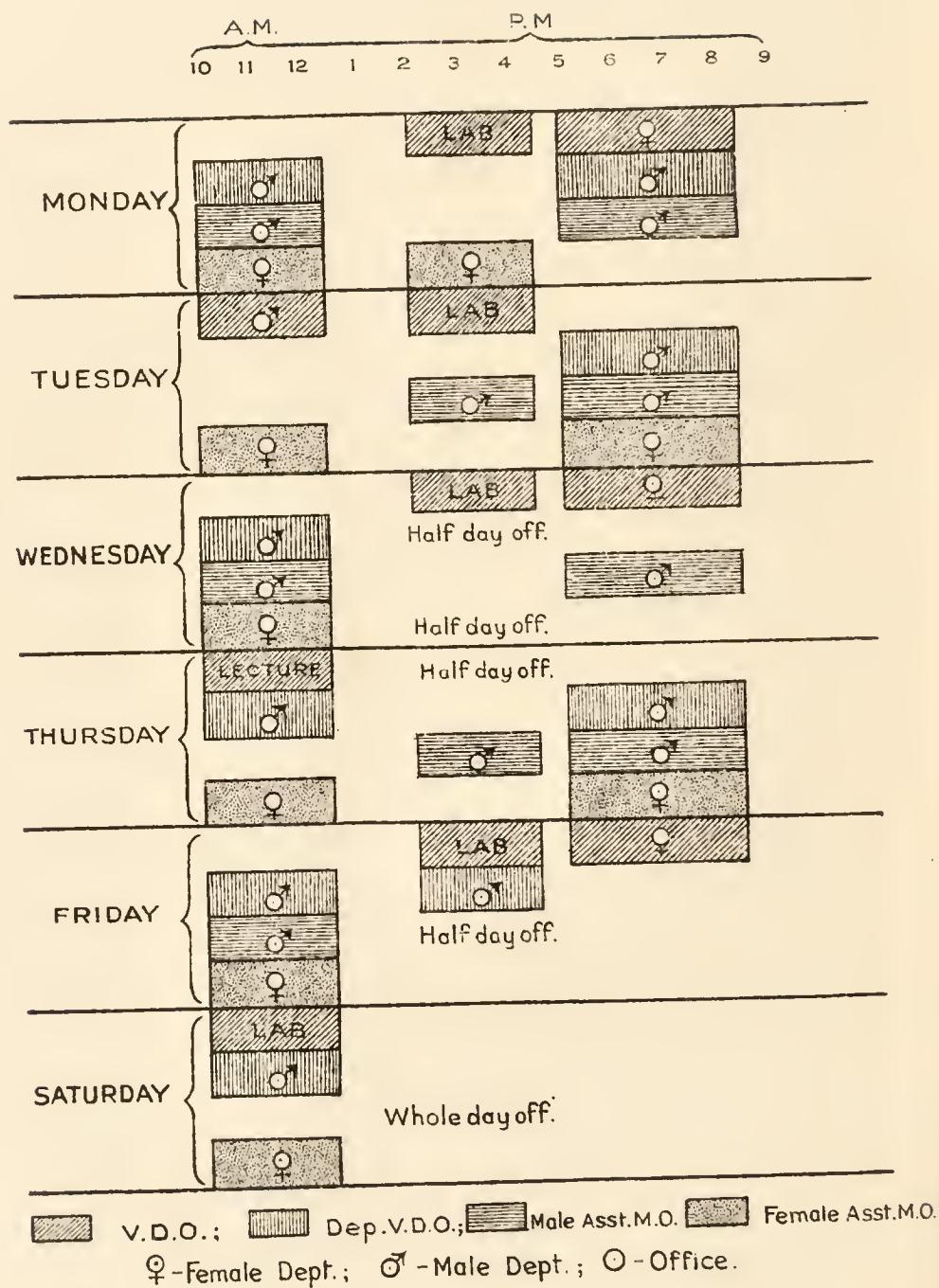
GRAPH N° 1











It will be observed that there has been a consistent rise from 1928 to 1931 in the proportion of non-venereal cases attending. During the last two years this has remained stationary. This is more clearly shown in Table II.

TABLE II.

Year.	Per cent. of N.V. to total cases.
1928 .....	27
1929 .....	38
1930 .....	46
1931 .....	49
1932 .....	48
1933 .....	49
Average .....	43

A reference to this aspect of the matter was made on page 5 of the Annual Report for 1932. In this connection there is, in *The Thirteenth Annual Report of the Ministry of Health, 1931-32*, presented by the Minister of Health to Parliament in June 1932, the following statement on page 60 :

" It is a satisfactory feature of the venereal diseases scheme that a large  
 " number of persons who suspect that they may have contracted disease  
 " take advantage of the facilities provided for diagnosis. This is shown  
 " by the increasing number of ' new cases ' found not to be suffering  
 " from venereal disease. Of the total number of ' new cases ' in 1931,  
 " 36.43 per cent., were found not to be suffering from venereal disease,  
 " as compared with 34.39 in 1930, 32.6 in 1929 and 1928, and 31.4 in 1927."

At the Municipal Clinic, as will be seen from Table II the average percentage-ratio of non-venereal to venereal cases works out at 43.

Recent experience has shown, however, that this matter of the non-venereal patient is apt to be woefully misunderstood. The criticism has been made, with apparent seriousness, that at the Municipal Clinic a great deal too many persons suffering from affections other than venereal, are receiving treatment. The implication obviously is, not only that this is a new feature since the Clinic was opened in 1928, but that in this respect the money allocated for the treatment of venereal diseases is being wrongfully applied to other infections. If such a criticism should be made—which is not impossible—it is very necessary that the position should be briefly explained.

The patients labelled " Non-venereal " are those (a) who having once had V.D.; (b) who have run the risk of V.D.; (c) who suspect that they may have

V.D. ; or (d) who wish to be investigated regarding V.D. prior to marriage, come to the Clinic in order to be tested. If V.D. is found to be present—and the tests may occupy many weeks—then the patient is re-diagnosed as such. If no V.D. is found, the person concerned is discharged. There is no question whatever of treating non-venereal persons for non-venereal infections, except in the case of balanitis, paraphimosis, and other conditions usually acquired sexually, but which are not *officially* venereal diseases. In all such instances, however, an observation must be kept upon the patient until the incubation periods for gonorrhœa, chancroid, and syphilis have gone past. In addition, a fair number of men, having exposed themselves to the risk of infection, come to the Clinic for preventive treatment. These also fall into the "Non-Venereal" category. Furthermore, when a married person comes with a venereal infection, an effort is made to get the marital partner and any children there may be, to come for examination. These too, are entered as "Non-venereal" until V.D. is actually found to be present.

The criticism which might be made that the proportion of N.V. cases with respect to the period from 1928 to 1932 is far too great when compared with the five years from 1923 to 1927, would be based upon wrong information with regard to that last-named period. An examination of the Annual Returns rendered to the Ministry of Health shows that from 1923 to 1927 the percentage-ratio of N.V. to total cases was 31.6 ; and from 1928 to 1932 it was 44.0. It was indeed one of the most satisfactory features of the local V.D. Scheme from 1923 to 1927 that the proportion of N.V. cases handled, corresponded so closely with the average for the whole country.

Again in connection with the Annual Report for 1932, a certain amount of misconception might arise regarding the comparative cost and work done between the respective years 1927 and 1932—these being the end-years of the two five-year periods (*vide* page 21, Annual Report 1932). It might be argued that if the amount of money spent on the Clinic in 1932—£10,742 gross—had been expended on the Clinic in 1927—when it was only £3,095 gross—the amount of work done in 1927 would have been at least equal to that in 1932. The fallacy involved here is obvious. The fact, of course, is not that the work increased *because* of the money spent, but that the increase of patients and their attendances brought about by the changed situation of the Clinic since 1928—its all-day and every-day service provided by its whole-time Staff—*necessitated* an increased expenditure. The increase of work occurred *first* ; the increased bills came *later*. But in all this it must be noted that while the gross cost had increased by 247 per cent. in 1932 over that in 1927, the cost per patient rose by only 0.98 per cent., and the cost per attendance had decreased by 45 per cent.

In Table III are set out the figures for New Cases attending during 1933 and the annual average for the previous five years :

TABLE III.

Year.	V. or N.V.	Disease.	M.	F.	M. and F.	V.	N.V.	V. and N.V.
1933.	V.	Syphilis.....	214	94	308	1,015		1,999
		Gonorrhœa .....	530	158	688			
		Chancroid .....	19	—	19			
	N.V.	Non-venereal .....	892	92	984	—	984	
Annual average 1928 to 1932.	V.	Syphilis.....	287	98	385	1,105	—	1,958
		Gonorrhœa .....	604	100	704			
		Chancroid .....	16	—	16			
	N.V.	Non-venereal.....	658	195	853	—	853	

The New Cases suffering from venereal disease who attended during 1933 are analysed in Table IV according to sex, disease, and duration of disease.

TABLE IV.

Sex.	Disease.	Duration.		Totals.		Grand Total.
		Over 1 year.	Under 1 year.			
Male.	Syphilis.....	106*	97	203	752	988
	Gonorrhœa.....	19	511	530		
	Chancroid.....	—	19	19		
	Total Male.....	125	627			
Female.	Syphilis.....	40*	38	78	236	
	Gonorrhœa.....	14	144	158		
	Chancroid.....	—	—	—		
	Total Female.....	54	182	—		
Grand Total.....		179	809	988		

\*Exclusive of Congenital Cases.

The figures in Table IV are exclusive of patients who defaulted in a previous year and returned in 1933 with the same infection, and those who were dealt with for the first time here in 1933 but who were known to have received previous treatment at other Centres.

In Table V is set out an analysis of the degrees of syphilis in which the New Cases shown in Table IV presented themselves, plus congenital cases, and also the annual averages for the previous five years.



TABLE V.

Stage	Degree.	1933.			Annual Average, 1928-1932			Total during period 1928-1933 (6 years).		
		M.	F.	Total	M.	F.	Total	M.	F.	Total
Early.	1st. Sero-neg. primary....	43	3	46	79	5	84	438	30	468
	2nd. Sero-pos. primary....	31	5	36	46	16	62	263	88	351
	3rd. Early secondary .....	9	11	20	16	6	22	89	43	132
	4th. Late secondary .....	23	15	38	8	5	13	63	42	105
	Total Early Syphilis .....	106	34	140	149	32	181	853	203	1,056
Late.	5th. Endosyphilis.....	69	35	104	91	39	130	524	231	755
	6th. Tertiary & Visceral	40	8	48	8	3	11	81	24	105
	7th. Neurosyphilis .....	25	5	30	20	4	24	130	24	154
	8th. Congenital.....	12	17	29	17	19	36	97	113	210
	Total Late Syphilis.....	146	65	211	136	65	201	832	392	1,224
Grand Totals .....		252	99	351	185	97	282	1,685	595	2,280

It will be seen from the above that during the six years of the Municipal Clinic's existence, approximately 54 per cent. of the total syphilis cases were in the late stage of the disease. Of the 1,056 who presented themselves with early syphilis, 819 or 78 per cent. suffered from the primary—or most easily curable—degrees of the disease. This is extremely satisfactory.

#### Criteria of Cure and Laboratory Facilities.

Upon the matter of cure-standards to be adopted with regard to syphilis and gonorrhœa, depends not only the amount and character of therapy, but also very serious Public Health issues relative to spread of infection. It is essential then that the most stringent criteria of cure should be adopted.

**Syphilis.** The practical and generally accepted criteria of cure for syphilis are, in brief, that the patient should be free from clinical and serological signs of the disease for at least two years after the cessation of treatment. The aim is, of course, to discover and to apply, the amount and character of the therapy which will enable these criteria to be fulfilled in *every case*.

In *early male syphilis* this end has been attained. We know, without the slightest vestige of doubt, that according to the mode by which therapy has been computed in this Clinic from 1928 to 1933, if the Efficiency Indices of Courses I, II, III, or IV do not fall below 70, the patients concerned will, *in every instance*, pass the cure-standards laid down. It follows then that the one important thing in the treatment of early male syphilis is to ensure an E.I. of 70 or over. Having obtained that, we know that the patient will suffer no clinical or serological relapse in the future. With that E.I. he fulfills the cure standards. The experience of the last six years, and the analysis of over 800 cases of early male syphilis is, that *with an E.I. of 70 or over, the observation period of two years may be dispensed with*. In the final analysis then, there is one criterion of cure for early male syphilis, and that is an E.I. of at least 70.



Such an index is the measurement of adequacy—that meaning, a relapse-rate of *nil*, or, in other words, a cure rate of 100 per cent. Having found such a yard-stick and tested its accuracy over six years and in over 800 cases, there is no need in every future case to go on testing it. It has already completely proved itself.

Nevertheless, in order to utilize the clinical material to the fullest advantage, to secure as much observation as is possible, and to forestall in some degree the inevitable adverse criticism of the conscientious objector to newness and change, the observation-period of two years after the cessation of therapy, is retained in the Municipal Clinic. It is, moreover, extended where possible, by getting the patient to return for a serological test and a clinical overhaul every year thereafter, in the week in which his or her birthday occurs. It is, however, to be understood that if a male patient who has been treated for early syphilis and who obtains an E.I. of 70 or over, defaults from observation, that patient is regarded as cured. He has, that is to say, fulfilled the criterion which has proved to be satisfactory—an E.I. of not less than 70.

In *early female syphilis*, the position is not nearly so well defined. In this connection however, a second "Five Years Plan" begins on the 1st January, 1934; and it is hoped to find time to analyse the female cases from 1928 in an effort to arrive at some definite conclusion as to what constitutes the minimum therapy—i.e. what E.I. must be obtained—in order to ensure a cure-rate of 100 per cent. as in the male cases. So far as can be seen at present, an E.I. of 70 in the female does not give the results obtained in the male.

Both male and female early cases will, from January 1st, 1934, be treated alike with Courses I, II, III, and IV. A blood test will be done on each visit until the Wassermann becomes negative and for three weeks thereafter.

Subsequent to that, if the Kahn and/or Meinicke are positive, blood tests are to be continued once weekly till they become negative and then once every four weeks for twelve weeks. The object of this is to secure as accurate and detailed as possible a correlation between the male and female cases of early syphilis in respect of serological response to the same intensity of therapy.

*Late syphilis* in either sex, on account of its histo-pathological character, probably does not permit of the same kind of analysis as does early syphilis.

In *congenital syphilis* the criteria of cure are; freedom from clinical and serological relapse during a two years period of observation after the cessation of therapy. As it has been impossible so far to fix a satisfactory E.I. for this class of case, it has been decided that the minimum duration of therapy shall be 260 weeks—five years.

The routine Courses for congenital syphilis were printed in Appendix III on page 33 of the Annual Report for 1932. These are not meant to be rigidly adhered to in every detail. They are simply guides. The actual details such as the agents employed, the order in which they are used, and the duration of time during which each is administered, may be varied according to circumstances. The main principle, however, is to administer *continuous* therapy

during the first 52 weeks. So far as arsphenamine and bismuth are concerned, the alternating method is to be adhered to ; but with either or both of these agents, mercury in the form of the Yellow Iodide may be given concurrently. During the rest intervals of 13 weeks, beginning in the second year, mercury and the iodides *must* be given. Throughout the whole of the five-years Course, a blood test will be done at the end of each drug-series and at the end of each rest-interval.

It has been said the patients will not continue to attend for five years, and that these Municipal Clinic Courses are very much longer than those in operation elsewhere. Both these statements may be quite true, but they do not justify lowering the standard. If patients suffering from congenital syphilis, only complete half or even a quarter of what is prescribed for them in this Clinic, a certain unknown proportion may have been cured. That is all to the good, and at any rate they will, even then, have received more therapy than is—quite unwarrantably—considered sufficient in some other quarters. We know that we can certainly in twenty-six weeks by Course 1, cure a man suffering from the *minimum* weight of syphilis. It cannot, therefore, be considered unduly pessimistic or unreasonable to hold the view that ten times that duration of treatment will be necessary to cure a child or young person who has been born with the *maximum* load of the disease. And here it may be mentioned that the Municipal Clinic Course for congenital syphilis is only *one-fifth* of the duration of Professor Gougerot's astounding Course for sero-negative primary male syphilis. It is, moreover, only about twice as long as that prescribed in some other British Clinics for the first degree of the disease in the adult.

This standard of treatment and cure for congenital syphilis adopted in the Municipal Clinic will naturally have an adverse repercussion upon the cure-rate for these patients, for no case of this degree of this disease will be considered as cured unless it has had five years of therapy and has been under observation for a further two years.

### Treatment.

**Syphilis.** During 1933 a considerable amount of time was devoted to the study of how to increase the efficiency of the Courses for this disease. This has resulted in the drawing-up of the subjoined Revised (1934) Courses which, for early syphilis, were described on page 14 of the Annual Report for 1932.

In these Courses, the arsphenamine in routine use is Stabilarisan. The bismuth is a lipo-soluble preparation, as this type has completely replaced all others. In the above table, the bismuth-metal is calculated in terms of Stabismol (old), 2.0.c.c. of which contain 0.2.Gram. of the element. This is the maximum weekly dosage. It is, of course, understood that where bismuth preparations are concerned, the actual metallic content bears no direct relationship to therapeutic potency.

TABLE VI.  
REVISED (1934) COURSES.

Course and Degree of Disease.	Agents.	No. of injections per week.	No. of weeks.	Grams		T.T.	E.E.
				Arsph.	Bis.		
Course I. 1st Degree : Sero-negative primary.	Arsphenamine.....	3	13	13.0	—	13	92.3
	Bismuth.....	1 or 2	4	—	0.8	3	
	Arsphenamine.....	3	5	5.0	—	5	
	Bismuth.....	1 or 2	4	—	0.8	3	
	Total.....	—	26	18.0	1.6	24	
Course II. 2nd Degree : Sero-positive primary	Arsphenamine.....	3	13	13.0	—	13	94.1
	Bismuth.....	1 or 2	4	—	0.8	3	
	Arsphenamine.....	3	8	8.0	—	8	
	Bismuth.....	1 or 2	4	—	0.8	3	
	Arsphenamine.....	3	5	5.0	—	5	
	Total.....	—	34	26.0	1.6	32	
Course III. 3rd Degree : Early secondary.	Arsphenamine.....	3	13	13.0	—	13	91.8
	Bismuth.....	1 or 2	4	—	0.8	3	
	Arsphenamine.....	3	8	8.0	—	8	
	Bismuth.....	1 or 2	4	—	0.8	3	
	Arsphenamine.....	3	6	6.0	—	6	
	Bismuth.....	1 or 2	5	—	1.0	3.75	
	Total.....	—	40	27.0	2.6	36.75	
Course IV. 4th Degree Late secondary.	Arsphenamine.....	3	13	13.0	—	13	92.0
	Bismuth.....	1 or 2	4	—	0.8	3	
	Arsphenamine.....	3	10	10.0	—	10	
	Bismuth.....	1 or 2	5	—	1.0	3.75	
	Arsphenamine.....	3	10	10.0	—	10	
	Bismuth.....	1 or 2	6	—	1.2	4.5	
	Total.....	—	48	33.0	3.0	44.25	
Course V. 5th Degree : Endosyphilis	Arsphenamine.....	3	13	13.0	—	13	93.9
	Bismuth.....	1 or 2	4	—	0.8	3	
	Arsphenamine.....	3	13	13.0	—	13	
	Bismuth.....	1 or 2	4	—	0.8	3	
	Arsphenamine.....	3	8	8.0	—	8	
	Bismuth.....	1 or 2	6	—	1.2	4.5	
	Arsphenamine.....	3	10	10.0	—	10	
	Total.....	—	58	44.0	2.8	54.5	
Course VI. 6th Degree : Tertiary and Visceral Syphilis	Arsphenamine.....	3	13	13.0	—	13	94.0
	Bismuth.....	1 or 2	4	—	0.8	3	
	Arsphenamine.....	3	13	13.0	—	13	
	Bismuth.....	1 or 2	4	—	0.8	3	
	Arsphenamine.....	3	8	8.0	—	8	
	Bismuth.....	1 or 2	6	—	1.2	4.5	
	Arsphenamine.....	3	10	10.0	—	10	
	Bismuth.....	1 or 2	4	—	0.8	3	
	Arsphenamine.....	3	13	13.0	—	13	
	Total.....	—	75	47.0	3.6	70.5	

The main principles upon which the treatment of Syphilis in the Municipal Clinic are based, are as follows:

- (1) Therapy is continuous, there being no rest-periods.
- (2) The treponemicidal agents—arsphenamine and bismuth—are given in alternating series and not concurrently.
- (3) The standard time-period in respect of dosage, is one of 7 days.
- (4) Arsphenamine is given intravenously *thrice* weekly in doses of 0.45, 0.30, and 0.25 gram.
- (5) The first series of arsphenamine injections lasts for 13 weeks. This is to avoid the “danger gap” caused by the patient defaulting before the 13th week on account of pain or disability arising from intramuscular bismuth if that agent is given during this time.
- (6) The adjuvant agents—mercury and the iodides—may be given concurrently with arsphenamine and bismuth, but in such circumstances, no therapeutic value is allotted to them.
- (7) If the patient is intolerant to arsphenamine or bismuth, mercury may be brought in as a substitute. In such cases, the yellow iodide is given orally—a therapeutic value being allowed to each week’s dose in accordance with Table VII.
- (8) As soon as the scheduled duration of the Course is reached, the E.I. is worked out according to the old method described in the previous Report. If this reaches 70 or over, the patient is considered as cured, but he still undergoes the observation period of two years. If, on the other hand, the E.I. is less than 70, then *concurrent* treatment with arsphenamine and bismuth is carried out provided that in not more than four weeks, the E.I. can be raised to 70 or over. If this is impossible, the patient is—if he was on Course I, II, III or IV—now to be regarded as suffering from Endosyphilis, and put on Course V. If the patient was originally on Course V or VI, if he reached an E.I. of 70 or over, and if the blood-Wassermann test was negative, he then enters upon the observation period of two years. If, however, on Course V or VI, the E.I. was under 70, or if the serology was Wassermann-positive, Course V is repeated.
- (9) On the treatment sheets, the last column is headed “T.U.” and therein, in cases attending for the first time after December 31st, 1933, is to be entered the T.U. value of each dose according to Table VIII and the revised method of recording therapy, which will now be described.
- (10) In these 1934 cases, the E.I. will in the meantime be worked out according to the new method—the criterion of adequacy remaining for the present at 70.



**Revised Method of Computing Therapy.**

The old method was briefly described on pages 16 to 18 of the Annual Report for 1932. Deliberately this method was made a rough one, so that whatever error there might be, would be upon the side of safety—the patient would be over—rather than under-treated. It was for this reason that certain of the smaller doses of the agents were reckoned as *nil*.

The revised method has been evolved in order to secure greater accuracy, and also to avoid the apparent inconsistency of giving a zero value to certain doses of treponemicidal agents. The principle, however, remains as before; the only alteration is in detail. The difference between the two methods might be expressed by saying that under the old one, therapy was measured by a rod graduated in *yards*, whereas under the revised method, the measuring rod is graduated in *inches*. This may eventually mean that the lower limit of efficiency—the E.I. of 70—will require to be either raised or lowered. Since it will be some time before this can be decided, the old method of assessing adequacy will be retained meanwhile.

In order to make calculation of the smaller doses easier, certain very slight alterations have been made to figures given in Table IX on page 16 of the Annual Report for 1932. These are in the first place made with regard to the T.U. column, and that necessitated corresponding amendments to the C.T.Is. The changes in the latter are negligible and are well within the normal range of variation recorded in the animal experimental work. These new figures are embodied in Table VII.

**TABLE VII.**

Agents.	Chemotherapeutic Index (C.T. I.)	Efficiency Scale	Therapeutic Unit Value (T.U.)
Arsphenamine.....	16.0	100	1.00
Stabismol (old) .....	12.8	80	0.80
Bivatol .....	12.8	80	0.80
Bismogenol.....	9.0	56	0.56
Bismuth Oxychloride.....	9.0	56	0.56
Iodo-bismuthate of Quinine.....	8.0	50	0.50
Water-soluble Bi compounds.....	8.0	50	0.50
Metallic suspensions of Bi.....	8.0	50	0.50
Tryparsamide.....	5.1	32	0.32
Stovarsol.....	5.1	32	0.32
Mercury.....	1.0	6	0.06

Iodo-bismuthate of Quinine was given up prior to 1928; but it was again taken into use because of reports (Mehrtens, H.G. and Poupiot, P.S., *Arch., Neurol. and Psychol.*, 1220, XXVI, 1931; Hanzlik, P.J., Mehrtens, H.G. Gurchot, C., and Johnson C.C., *Jnl. Amer. Med. Assoc.*, 537, NCVIII, 1932). These workers stated that a compound containing the bismuth in the anionic form had a greater power of penetration into the central nervous system, than those in which the element was in the cationic form. The compound used was Sodium Iodo-bismuthite (Iodobismitol). Since Iodo-bismuthate of Quinine is stated to have the bismuth in the anionic form, it was again taken into use; but the



brilliant results claimed by Mehrtens and his co-workers were not experienced clinically here. It is extremely improbable that the electrical change possessed by the bismuth ions have any influence; and the clinical and serological value of Iodo-bismuthate of Quinine as found in the Municipal Clinic is that expressed in the above Table. Recently, Levaditi (*Bull. Soc. franc. de dermat. et syph.*, 738, XL, 1933) showed experimentally that the claims made for Oodobismitol are not warranted. Iodo-bismuthate of Quinine is only used here in cases where the lipo-solubles cause pain and nodosities.

To enable each dose of the agents used in the Municipal Clinic to be recorded, Table VIII has been compiled. In the new method of computation, every dose no matter how small, is allotted a T.U. value.

TABLE VIII.  
DOSES AND THERAPEUTIC UNIT VALUES (1934).

Agent.	Grams.	C.c.	T.U.
ARSPHENAMINE. (Maximum weekly dose is 1.00 gram. Maximum single dose is 0.60 gram).	0.15	—	0.15
	0.25	—	0.25
	0.30	—	0.30
	0.45	—	0.45
	0.60	—	0.60
	0.75	—	0.75
	1.00	—	1.00
BIVATOL. (Maximum weekly dose is 4.0 c.c. or 0.14 gram. Bi.).	0.035	1.0	0.20
	0.07	2.0	0.40
	0.14	3.0	0.80
STABISMOL (Old). (Maximum weekly dose is 2.0 c.c. or 0.2 gram. Bi.).	0.05	0.5	0.20
	0.10	1.0	0.40
	0.20	2.0	0.80
IODO-BISMUTHATE OF QUININE. (Maximum weekly dose is 6.0 c.c. or 0.198 gram. Bi.).	0.033	1.0	0.08
	0.049	1.5	0.12
	0.066	2.0	0.16
	0.099	3.0	0.25
	0.198	6.0	0.50
TRYPARSAMIDE. (Maximum weekly dose is 4.0 grams).	1.00	—	0.08
	2.00	—	0.16
	3.00	—	0.24
	4.00	—	0.32
STOVAR SOL. (Maximum weekly dose is 8 Tablets.)	Tablets.		
	1	—	0.04
	2	—	0.08
	3	—	0.12
	4	—	0.16
	5	—	0.20
	6	—	0.24
	7	—	0.28
	8	—	0.32
HYDRARG. IOD. FLAV. (Maximum weekly dose is 7.0 grains or $\frac{1}{3}$ grain t.d.s.).	Grains.		
	$\frac{1}{8}$ t.d.s.	—	0.02
	$\frac{1}{4}$ t.d.s.	—	0.04
	$\frac{1}{3}$ t.d.s.	—	0.06

It will be seen from the above that the T.U. value of the drug as shown in Table VII is given to the maximum weekly dose, and that each fraction of that maximum is given a corresponding fractional T.U. value. The maximum dose is here identical with the "optimum" for the normal adult. One has not yet been able to decide as to whether when the optimum is lower than the maximum given above, the E.L. principle is better discarded, as in children, for example. Further experience will show if this can be altered in any convenient way to admit of easy calculation.

An approximation of equivalent doses is that 0.45 gram arsphenamine equals :

- (1) Bivitol—2.0 c.c. or 0.07 gram Bi.
- (2) Stabismol—1.0 c.c. or 0.10 gram Bi.
- (3) I.B.Q.—5.0 c.c. or 0.165 gram Bi.
- (4) Tryparsamide—6.0 grams.
- (5) Stovarsol—12 tablets.
- (6) H.I.F.—154 grains.

#### Mercury.

The position of mercury in the treatment of syphilis is one which varies greatly in different Clinics. The way in which it is visualised here is that while this agent has some value in the treatment of a *person* who is infected by the *Treponema Pallidum*—especially if the infection is of long standing—and in one who is intolerant of arsphenamine or bismuth, it is not considered to have any appreciable treponemicidal effect in the same way as have these two last named agents. Mercury is regarded as a direct antiseptic, acting as much upon the living cells of the host as upon the infecting parasites. Its value seems to lie in its apparent power of reinforcing in some way the really specific, selective, chemo-therapeutic action of arsphenamine and bismuth. Such reinforcement is unnecessary in early syphilis. It may indeed have a harmful effect, in that mercury may just keep the serology negative at a time when an insufficient amount of the other agents has been given.

The attitude taken up at the Municipal Clinic is that mercury should only be regarded as an adjuvant to the other two. It should never be used alone except in a definite planned rest-period ; and then it should not be taken into any serious account as constituting "therapy." Under exceptional circumstances it may be that mercury alone can cure syphilis—or at any rate, turn the patient into a more or less harmless carrier of the *treponema pallidum*. Clinical experience during the last two centuries and more, has most certainly shown that mercurially treated patients are ideal subjects for clinical and serological relapse. By no intensity or duration of mercurial treatment is it possible to obtain a cure-rate of 100 per cent. as in the case of arsphenamine and bismuth. The experimental work which has been done with regard to the chemotherapeutic index of mercury-unity—is positive proof that this agent is one of the most inferior quality. In the big game expedition against the *Treponema Pallidum* it is ridiculous to consider using the bow and arrow of mercury when the modern high-velocity rifles of arsphenamine and bismuth are available.

Occasionally new mercurial compounds—chiefly of the organic type—are introduced into the therapy of syphilis in the hope that they will provide a weapon with an efficiency comparable to the organic arsenicals and bismuth. These efforts seem to be foredoomed to failure because of the fact that whatever other power mercury may possess, it has the inherent fault of a direct but quite unselective action upon living cells.

One such compound is "Flumerin" reported on by White, Heil, Moore and Young (*Jnl. Amer. Med. Assn.*, LXXIX, 1922). This is the disodium salt of hydroxy-mercuri-fluorescin. This drug is sometimes quoted as showing that animal experimental results cannot be applied to human syphilis. It is said—and quite truly—that while flumerin gives excellent results in the treatment of rabbit syphilis, it is of practically no value in the human disease. The statement is quite correct, but the inference is equally wrong.

The animal experiments show that the maximal *single* tolerated dose of flumerin for the rabbit is 0.30 gram per kilogram of body weight, and that the minimal single sterilising dose is exactly the same. The Chemotherapeutic index (C.T.I.) is, therefore, unity—as it is for all other mercurials. It is this C.T.I. which decides the value of a drug in human syphilis; and as far as flumerin is concerned, the C.T.I. of unity indicates very accurately what the value is—only one-sixteenth of that of arsphenamin, as is shown in Table VII. This has been corroborated clinically. Where the mistake is made in the inference referred to above is in confusing the C.T.I. experiment with the actual *treatment of rabbit syphilis*. The two things are quite different.

In the C.T.I. experiment, the object is to discover the ratio between the maximum single tolerated dose and the minimal single sterilising dose. It is not only important to note the word "single," but also to observe that the experiment has no connection with the *treatment* of rabbit syphilis, but only has for its object the elucidation of the ratio between treponemicidal power and toxicity in such single doses. The indicator for treponemicidal power is an inoculum of parasites into the testis of the animal. The toxicity is gauged by the ability of the animal to survive for ten days after injecting the drug. It is necessary to distinguish between an inoculum of parasites and the disease itself. This may sound somewhat complicated but such, nevertheless, is the fact. The position might be explained by saying, paradoxically perhaps, that the C.T.I. investigation is an *in vitro* experiment performed *in vivo*.

In the actual *treatment* of rabbit syphilis, it was certainly found that in doses of 0.005 gram per kilogram of body-weight—*i.e.*, one-sixth of the maximal tolerated and minimal sterilising single doses—the animals could sustain as many as twenty such doses at intervals of 3 to 5 days and that the disease was cured. But this result was brought about by repeated small-sub-curative-doses. Where arsphenamine and bismuth are concerned, the animals cannot only be cured with a series of doses much smaller than the minimal single sterilising dose, but they are cured and will survive that dose itself—and also much greater *single* doses than that.

If the animal is to survive, it means that with mercury, sterilisation can only be brought about by a series of repeated sub-curative doses; whereas with

arsphenamine and bismuth, sterilisation is accomplished by a single dose which is only a small fraction of the tolerated amount.

Every shred of clinical experience shows that in human syphilis—which is vastly different to rabbit syphilis—the value and safety of a drug runs parallel with the C.T.I. as determined in the rabbit. No one familiar with the principles and meaning of chemotherapy ever claimed that if the drug was valuable in the treatment of rabbit syphilis, it would also be valuable in the treatment of the human disease. But what is true, is that the C.T.I. of a drug as worked out upon the rabbit, using an inoculum of parasites as an “indicator,” is a direct pointer to the value of that agent in human therapy. It is most important that the C.T.I. and the treatment of rabbit syphilis be kept quite distinct.

From the standpoint of absolute reduced toxicity, flumerin is certainly in advance of most other mercurials; but this reduced toxicity for the host is accompanied by a correspondingly reduced parasitotropic power, so that the ratio between the two—C.T.I.—remains as for other mercurials, at unity.

#### Gonorrhœa.

So far as *male* gonorrhœa is concerned, the routine treatment as carried out during the past six years appears to be satisfactory. A preliminary review of the case-records would seem to show, however, that there is no appreciable difference between the results of a series of cases treated with vaccines and a series treated without. This question however, is being investigated with greater detail in 1934.

As regards *female* gonorrhœa, the picture of results does not show such a pleasing appearance. This whole matter of results—in both sexes—bears ultimately upon the matter of cure-tests, and it opens up practically the whole question of the bacteriology of the disease and its ancillary problems of immunity.

The results in female gonorrhœa seemingly became worse when the bacteriological examination of slides was taken over entirely by one member of the Staff. In other words, a higher proportion of positives was found.

This was so marked that there may have arisen—perhaps not unnaturally—some suspicion that gonococci were being seen where none, in point of fact, existed. The results, however, of the C.F.T., the subsequent history, longer clinical observation, and the further and more meticulous examination of such patients, appeared to verify the previous reports. It then became legitimate to surmise that perhaps there had been hitherto a failure to recognise gonococci when they were actually present. This may have been because of a not uncommon reluctance to identify these organisms when they were in an extra-cellular position. The identification of the gonococcus microscopically has always been a difficult one—and indeed it is by no means rare for the pathologist to whom a specimen is sent, to “hedge” by reporting that: “Gram-negative diplococci, morphologically indistinguishable from gonococci are present.” Recent work has only added to these difficulties.

It is interesting, and perhaps not unimportant to hark back to the days of Ricord who, in his *Letters on Syphilis* (1852), stated that women frequently



convey to men a gonorrhœal infection without having it themselves. He said: "Gonorrhœa is as rare in women as it is common in men . . . I have frequently seen that a married woman may cohabit with her husband without infecting him, but let a lover come on the scene, and he at once contracts gonorrhœa. The husband was acclimatised, the lover was not."

Although Ricord wrote before the actual discovery of the gonococcus by Neisser a great deal of his clinical observations on the disease have, of late, taken on a new and unsuspected significance. For example, his famous recipe for acquiring gonorrhœa would appear to indicate an agreement with the observations of Durel and of Franck in 1933, that the gonococcus can live as a harmless saprophyte in the genital passages of those who are neither in the incubation period of, nor are recovering from, gonorrhœa.

In 1915, Warden (*Jnl. Inf. Dis.*, XVI.) working with twenty-two different strains of the organism, came to the conclusion that by varying the culture media, all types of the coccus family can be observed. By undoubted processes of reversion and variation, there were seen staphylococcus-like clumping of single forms, short chain-formations as with streptococci, lanceolate forms indistinguishable from pneumococci, diplococci resembling the catarrhalis group; and all these *unquestionably pure cultures of gonococci which return promptly to strain-type on appropriate media*. To many this appears the wildest heresy. Yet, as Hewlett (*Manual of Bacteriology*) points out, undoubtedly bacteria exhibit variations and imitations not only in morphology but also in function. In the colon, typhoid, and plague bacilli, for example, the rods may sometimes be so short as to be almost cocci, while at other times they are well-marked rods or even filaments. Pathogenic organisms, Hewlett mentions, may become non-pathogenic. Twort has succeeded in training *Bacillus Typhosus* to ferment lactose which ordinarily it does not. Horrocks has shown the *Bacillus Typhosus* by symbiosis with *Bacillus Coli* may be converted into *Bacillus Alcaligenes*.

Bevis found that many variations occur with coliform organisms as the result of cultivation on malachite green media. As the result of the exposure of sporing anthrax to ultra violet rays, Mme. Henri obtained stable coccoid and gram negative thin filamentous forms.

Minchin has pointed out that sexual reproduction—conjugation—is of prime importance in preserving the differentiation between species; and that without it, a species tends to break up into races. Hewlett states—and herein he is supported by every biologist and by every bacteriologist who has progressed beyond mere technical laboratory compileance—that if it be true that sexual reproduction does not take place among the bacteria, then *the so-called species of bacteria are to be regarded as were races or strains capable of modification in any direction*.

In 1926, certain views based upon such considerations and upon observations of treated cases of male and female gonorrhœa, were put forward at a meeting of the Medical Society for the study of Venereal Diseases in London. These views were generally considered to be revolutionary and heretical. More



recently, Durel (*Ann. d. mal. ven.*, XXVIII, 401, 1933) states that it is proved that gonococci can live as saprophytes in the genital passages without giving rise to any pathogenic symptoms; and that they may thus exist in persons who are neither in the incubation period of, nor are recovering from, gonorrhœa. Franck, also in the same volume of the journal mentioned above, quotes a series of nine cases of symptomless gonococcus carriers. He, likewise, considers the organism to be saprophytic, but that it may in response to suitable stimuli become pathogenic and give rise to typical gonorrhœa. He states that typical gram-negative organisms may, by culture, be transferred into gram-positive ones and *vice versa*.

It is quite futile to produce against such positive evidence—which is quite in accord with clinical experience—some negative reports by other workers.

The importance of all this in the diagnosis, treatment, and testing for cure in gonorrhœa, is obvious, and assuming that these observations are true, it throws all the hitherto accepted standards on to the scrap heap.

The view which one is forced to adopt is that the gonococcus can, and does, become in the genital passages, a harmless but potentially harmful saprophyte; that it originates as such; and that every shred of historical, clinical, direct, circumstantial, bacteriological, and experimental evidence, goes to show that it can develop pathogenic properties *de novo*. Under certain stimuli this harmless saprophyte—perhaps normal inhabitant—becomes Bolshevick, sees red, and develops into a typical gonococcus in every respect. For a long time it has been accepted that because gonorrhœa cannot be caused in the urethra of an animal by inoculation, that therefore the gonococcus can only live upon the human mucous membranes. The evidence considered above would suggest, however, that the explanation may be that in the animal the gonococcus is almost at once transformed into a saprophytic condition. The evidence as to this will not be complete until such time as someone re-transfers the organisms from the animal's urethra into that of a human being.

But gonorrhœa is not unique so far as all this is concerned. There are parallels to be found with respect to other diseases. Thus, the pneumococcus is saprophytic and may exist for long periods—perhaps for life—in the respiratory passages without causing the disease-complex we call "pneumonia." Certain stimuli cause the organism to become virulent; and the result is disease. There may have been no transference of infection from another person. Another example is to be found in puerperal septicæmia. It is becoming recognised that a large number of such cases are due to what is called "endogenous infection." In other words, certain saprophytic organisms which are normally harmless, become, in certain women, virulent during the puerperium—and this despite the most meticulous care in asepsis and under the most modern methods of nursing and treatment in hospital.

There are thus innumerable difficulties and problems raised so far as gonorrhœa is concerned. When a gram-negative diplococcus is seen under the microscope, how is one to tell whether it is a virulent gonococcus or only a harmless saprophyte? When in treated cases, other organisms such as staphylococci, cocci, and bacilli are found, how is one to decide as to whether or not these are

merely metamorphosed gonococci which will revert to the virulent type on suitable stimuli? A positive culture from such cases may merely mean that this reversion has taken place in the culture-tube—the stimulus being the medium employed.

All these things may seem at the moment, unorthodox and heretical; but it is irrational to dismiss them with contempt, and to go on in the comfortable belief that what was good enough for our fathers is good enough for us. No one can deny that the treatment of gonorrhœa has ever been anything but unsatisfactory. In spite of such things as electrical ionisation, cataphoresis, diathermy, the use of ecto-antigens, and all the rest, it is very doubtful if patients are doing any better than they were over a century ago.

The view has been repeatedly expressed that the greatest danger in handling gonorrhœa, is *local over-treatment*. This may just be the stimulus which prevents the full retrogression of the virulent gonococcus into the harmless saprophyte. During the past six years it has in the Female Department been the deliberate policy to prolong treatment, to increase the strength of the local applications, and to apply them more frequently than was one's practice prior to 1927. And the general impression obtained from that experience is not only that the results are now no better, but that they are indeed worse. This one is inclined to attribute to two main things: (i) local over-treatment; and (ii) provocative procedure with Aolan, Vaccines, and strong chemical applications.

A large series of female cases have been treated in the beginning with mild topical applications in glycerine. When a series of monthly slides were negative, stronger cervical paints, such as iodised phenol or silver nitrate were applied. And in the vast majority of such cases, the next series of slides again showed gonococci to be present. These strong applications acted as provocatives, and their effect may have been to render the saprophytic organisms again virulent. Similarly for Aolan and Vaccines. The result of such provocative measures, then, may be in effect, merely to undo all the previous treatment. The mere possibility of such a thing—to place it no higher than that—indicates that a considerable period must be allowed to elapse between the cessation of treatment and the institution of provocative measures, so as to give the organisms sufficient time to become thoroughly established in their avirulent condition, and to give the reactive power of the body a chance to act upon the organisms that the saprophytic state is reinforced.

For some time to come, a series of cases of female gonorrhœa are to be treated according to the following main principles:—

- (1) Urethral and cervical treatment with mild antiseptics daily if possible for 13 weeks.
- (2) Suspension of all treatment for the next 13 weeks, provided there are no clinical signs, even though slides, cultures, and C.F.T. are positive. The object here is to allow the gonococcus the chance of becoming saprophytic.
- (3) If at the end of this time "intracellular" gonococci are present in smears, treatment is resumed. If none such are found and if clinical signs are absent, there is begun another rest-period of 13 weeks,

- (4) At the end of this observation period if the C.F.T. is positive, treatment to be resumed. If negative, the patient may be regarded as cured, although she may be a carrier of saprophytic gonococci.

It is very frankly admitted that there is little certainty attached to this, and that there are many more or less plausible objections to these suggestions; but it seems very advisable that they be tried out, and that the results as regards clinical relapse and conveyance of infection to marital partners, be compared with the former results.

The position appears to be that the whole subject of gonorrhœa requires re-study from the very beginning. It is suggested that this study should be from the biological rather than as heretofore, from the pathological angle. In other words, it is desirable that the gonococcus be investigated in a *botanical* manner without considering its pathogenic properties: for the organism is in fact a plant living within the human—and perhaps in an altered form within the animal tissues.

In the meantime it would seem that the finding of gonococci in smears or in cultures need no more indicate that the patient is suffering from gonorrhœa, than negative smears and cultures indicate that the patient is not. It would also appear that a negative C.F.T. may be consistent with positive gonorrhœa. A positive C.F.T., however, in a non-vaccine case, apparently indicates that typical virulent gonococci are still harboured by the patient.

One point is clear, that there must be provided further laboratory facilities in the form of cultures and the C.F.T.

In Table IX. are set out the pathological examinations performed in respect of Clinic patients, year by year, since 1928.

TABLE IX.  
PATHOLOGICAL EXAMINATIONS.

	Syphilis.					Gonorrhœa.				
	Treponema Pallidum	Wass	Kahn	Meincke	Total (S.)	Gonococci	Pus Indices	G.C.F.T.	Total (G.)	Total (S. & G.)
Clinic...	30	—	—	—	483	1,241	2,020	—	3,261	3,744
Lab.....	—	453	—	—		—	—	—	—	—
Clinic...	81	—	—	—	1,798	3,979	2,651	—	6,630	8,428
Lab.....	—	1,717	—	—		—	—	—	—	—
Clinic...	152	—	—	—	3,394	5,599	2,268	—	7,867	11,261
Lab.....	—	3,242	—	—		—	—	—	—	—
Clinic...	286	—	—	—	3,771	6,146	1,729	—	7,875	11,646
Lab.....	—	3,485	—	—		—	—	—	—	—
Clinic...	372	—	—	2,064	8,299	7,085	1,984	—	9,069	17,368
Lab.....	—	3,736	2,127	—		—	—	—	—	—
Clinic...	245	—	—	3,215	11,963	7,674	1,620	—	9,348	21,248
Lab.....	—	4,197	4,197	109		—	—	54	—	—
Totals..	1,166	16,830	6,324	5,388		31,724	12,272	54		
			29,708				44,050			
1 Total {	Clinic..... 50,441									
	Lab..... 23,317									
						73,758				

It has already been indicated in the earlier part of this Report that further tests for Syphilis and Gonorrhœa are required. To some, it might seem that the number of serological tests in syphilis cases is excessive; but a great many of these are carried out weekly or oftener upon patients who are being treated with some of the newer remedial agents. The object of this is to note the serological response obtained and so to make a comparison between different drugs with regard to their therapeutic efficiency. In this way alone can the values of the different agents be assessed; and it is most important that, from the point of view of economy, the most potent be used.

### Congenital Syphilis.

TABLE X.

NEW CASES UNDER 15 YEARS OF AGE.

Year.	M.	F.	Total.
1928.....	2	5	7
1929.....	8	11	19
1930.....	19	26	45
1931.....	27	18	45
1932.....	12	23	35
1933.....	11	16	27
Total.....	79	99	178
Average for 6 years.....	13.2	16.5	29.7

The problem of the congenital defaulter remains as serious as ever, as is clearly shown in Table XI.

TABLE XI.

				Defaulters.										Still Attending Transferred or Otherwise Disposed of.			
	Sex		Total	Within One Year				Over One Year				Total Default- ers	% Default- ers				
	M.	F.		M.	F.	Total	%	M.	F.	Total	%						
C.1. { Under One Year Old.	12	13	25	6	11	17	68.0	3	—	3	12.0	20	80.0	3	2	5	20.0
C.2. { One to Five Years Old.	12	17	29	7	9	16	55.0	1	2	3	10.0	19	65.0	4	6	10	35.0
C.3. { Five to Fifteen Years Old.	58	69	127	22	24	46	35.0	8	10	18	15.0	64	50.0	28	35	63	53.0
Totals.....	82	99	181	35	44	79	43.6	12	12	24	13.0	103	57.0	35	43	78	43.0



The V.D. Officer raised the question of securing powers to compel the parents or guardians of such children to secure adequate treatment for them. This matter was taken up by the British Social Hygiene Council, and a deputation was sent to interview the Medical Members of Parliament upon the subject. This question is still under consideration, and it is hoped that in the near future it will be possible to proceed against recalcitrant parents or guardians under the Children Act without violating the V.D. Regulations.

In-Patients.

TABLE XII.

IN-PATIENTS—DAYS.

		Venereal.				Not V.D.	Total, All Cases.
		Syphilis.	Chancroid.	Gonorrhœa	Total V.D.		
1928.	Males.....	111	38	262	411	40	451
	Females...	16	—	61	77	—	77
	Total (1) ..	127	38	323	488	40	528
1929.	Males.....	505	52	729	1,286	218	1,504
	Females...	8	—	36	44	—	44
	Total (2) ..	513	52	765	1,330	218	1,548
1930.	Males.....	358	119	633	1,110	296	1,406
	Females...	78	—	—	78	69	147
	Total (3) ..	436	119	633	1,188	365	1,553
1931.	Males.....	350	—	347	697	182	879
	Females...	515	—	615	1,130	75	1,205
	Total (4) ..	865	—	962	1,827	257	2,084
1932.	Males.....	358	84	451	893	119	1,012
	Females...	907	—	1,447	2,354	66	2,420
	Total (5) ..	1,265	84	1,898	3,247	185	3,432
1933.	Males.....	111	10	26	147	20	167
	Females...	806	—	1,028	1,834	—	1,834
	Total (6) ..	917	10	1,054	1,981	20	2,001
Total (1 to 6).....		4,123	303	5,635		1,085	
Total V.D.....		10,061					
Grand Total.....		11,146					



It will be seen from the above that there has been a considerable falling off in the number of in-patient days during 1933. This has not been because fewer patients required bed accommodation, but because insufficient accommodation is available.

The out-patient work has so developed that, with the arrangements and Staff at the Clinic, it is no longer possible to utilise the six male beds there. These are still retained for any emergency ; but the position really is that, apart from the six female beds at C.2.X. Ward in Hope Hospital, there is no in-patient accommodation whatever.

What is very urgently required is the setting aside of at least eight beds for male cases at Hope Hospital—twelve beds would be better—so that an adequate amount of malaria therapy could be carried out.

For some time past, male V.D. patients have been treated in various wards in Hope Hospital—some are only discovered as the result of serological investigations. It is eminently desirable that all V.D. cases found in that Hospital should be transferred from the general wards to a special V.D. Ward under the charge of the V.D. Officer.

This is a matter of some urgency.

#### **General.**

In order to provide practitioners with the necessary training and in order to comply with the regulations governing the Ministry of Health Certificate in Venereal Diseases, and also the Certificate issued by the University of Manchester, two Courses of Instruction are held annually. Each Course lasts for three months and this throws a good deal of extra work upon the Staff. It is gratifying to note that these Courses have been fairly well attended ; and as a result they should have the effect of improving the standards of diagnosis and treatment in general practice.

Various chemical firms have, from time to time, provided samples of new drugs for clinical and serological testing. This is a most important part of the work of the Clinic, and is for the ultimate advantage of the patient.

The oral use of iodides in the form of the potassium salt has been discontinued. This agent is now administered in the form of intravenous injections of Collosol Iodine. The advantages are two-fold : (i) We can now be sure that the patient really does receive the medicament ; and (ii) the agent is not so rapidly eliminated from the body as when it is given orally. Furthermore, the intravenous method is more economical.

The Staff have, during the year, continued, to render most efficient service.

I have the honour to be, Sir,

Your obedient Servant,

E. T. BURKE,

V.D. Officer.

APPENDIX I.

TREATMENT OF ANTERIOR GONORRHOEAL URETHRITIS IN THE MALE.

Week	Irrigations	Instilla- tions	De-toxiated Vaccine Intradermally	Additional Treatment	Remarks
1	A1 (Pot. Permang 1 in 10,000)	Nil.	Nil.	Blood Test	
2	A2 (Pot. Permang 1 in 5,000)	Agesulf 0.5%	Vac.B. 300	Nil.	
3	A3 (Pot. Permang 1 in 3,300)	Agesulf 1.0%	Vac.B. 600	Nil.	
4	B1 (Hg. Oxycyan. 1 in 10,000)	Nil.	Vac.B. 800	Nil.	
5	B2 (Hg. Oxycyan. 1 in 5,000)	Nil.	Vac.B. 800	M.O.S. if Urine Clear.	
6	B3 (Hg. Oxycyan. 1 in 3,300)	Nil.	Vac.B. 1000	M.O.S.	
7	C1 (Chloramine T.I. in 10,000)	Nil.	Vac.B. 1200	M.O.S.	
8	C2 (Chloramine T.I. in 5,000)	Nil.	Nil.	Nil.	
9	NO TREATMENT.	Patient is advised to have a glass of BEER and Bring in Morning Slides.			
10			Vac.A. 100 Intradermally	Morning Slides.	
11	T E S		Aolan	Morning Slides.	Routine Blood Test.
12	T S			Slides.	
13	O F			Slides.	
14			Urethroscope and Sounds	Slides.	
15	C U R E		Aolan	Slides. P.B.C.	
16			AgNO3 1%	Slides.	
17	RETURNS IN TWO MONTHS FOR G.C.F.T.				

## APPENDIX II.

## TREATMENT OF POSTERIOR GONORRHOEAL URETHRITIS IN THE MALE.

Week	Irrigations.	Instilla- tions	Vaccines	Additional Treatment	Remarks
1	A. $\frac{1}{2}$ , (Pot. Perm. 1 in 20,000.)	—	—	Mist. Chloral Co.	Blood Test.
2	Do.	Agesulf $\frac{1}{2}\%$	B. 300	Do.	
3	Do.	Do.	B. 600.	Do.	
4	A.1. (Pot. Perm. 1 in 10,000.)	Agesulf 1%.	B. 800.	—	
5	A.2. (Pot. Perm. 1 in 5,000.)	Agesulf 1 $\frac{1}{2}\%$ .	B. 800.	—	
6	A.3. (Pot. Perm. 1 in 3,300.)	Do.	B. 800.	—	
7	B.1. (Hg. Oxy. 1 in 10,000.)	—	B. 1,000	P.M. if Urines Clear.	
8	B.2. (Hg. Oxy. 1 in 5,000.)	—	B. 1,200.	Do.	
9	B.3. (Hg. Oxy. 1 in 3,300.)	—	—	Do.	
10	C.1. (Chlor. T. 1 in 10,000.)	—	—	Do.	
11	C.2. (Chlor. T. 1 in 5,000.)	—	—	M.O.S. if Urines Clear.	
12	Do.	—	—	Do.	

TEST FOR CURE AS IN ANTERIOR GONORRHOEAL URETHRITIS.

## SECTION IV.

# Report Relating to the Veterinary Inspector's Department.

## DISEASES OF ANIMALS ACTS, 1894-1927.

Certain diseases of animals are subject to administrative control by the Ministry of Agriculture and Fisheries. Eighteen outbreaks were dealt with during the year, comprising one case of tuberculosis, and seventeen of swine fever.

There are various Acts and Orders of a preventive nature which entail a considerable amount of work which cannot be adequately shown in figures.

### Anthrax Order, 1928.

There has been no case of anthrax in recent years, but all sudden unexplained deaths in cattle are regarded as suspected anthrax until the contrary is proved. The reported cases are mainly cattle dying in railway waggons in course of transit, or through injury in one or other of the cattle lairs. When an animal is found dead, or at the point of death, there is still a tendency on the part of some owners, or persons in charge, to bleed it in an endeavour to save the carcase, but the majority of owners and drovers are now aware of the dangers arising from this practice in the event of its subsequently being found to be a case of anthrax, and also the futility of trying to save such a carcase for food.

Thirteen suspected cases were investigated during the year but in each case a microscopic examination gave negative results.

### Importation of Dogs and Cats Order, 1928.

This Order is to prevent the introduction into Great Britain of rabies, through the agency of canine or feline animals brought from overseas. Notices were received from the Customs Officers that 42 ships were in dock with dogs aboard. The ships were visited in order to ascertain that the dogs were being controlled in accordance with the provisions of the Order.

### Tuberculosis Order, 1925.

This Order provides for the notification of certain types of tuberculosis in cattle. One cow affected with tuberculous emaciation was dealt with. This animal was valued at five pounds and was slaughtered at the Corporation slaughter-house. The post-mortem examination showed that it was affected with tuberculosis, but not "advanced tuberculosis" within the meaning of the Order; compensation at the rate of three-fourths of the valuation was paid to the owner.

# ANIMALS (LANDING FROM IRELAND, CHANNEL ISLANDS AND ISLE OF MAN) ORDER OF 1933.

## Importation of Canadian Cattle Order of 1933.

The above Orders intimately concern Salford as a large number of Irish and Canadian cattle and Irish sheep come each week to lairs in Salford from the ports of landing. One of the conditions governing the movement of these cattle is that on arrival at the cattle lairs they shall remain there for a period of six days, unless during that period they are moved to a slaughter-house by a licence issued by the local authority. The licensing is done by the Veterinary Inspector, and during the year 1,387 licenses were issued authorising the movement of 16,380 cattle and 30,847 sheep.

The cattle lairs are frequently visited to check the movement of imported animals and to see that they remain free from disease during the detention period ; also to see that the lairs are maintained in such a condition that they do not become a nuisance.

There are eight lairs in Salford and they are used almost entirely for fat cattle and sheep intended for slaughter.

# TRANSIT OF ANIMALS (AMENDMENT) ORDER OF 1931.

## Transit of Animals Order of 1927.

This Order contains a number of provisions relating to the carriage of animals by road and rail. There are two cattle stations in Salford which were regularly visited in order to ensure that the empty cattle waggons and cattle pens were thoroughly washed and disinfected after use. In this respect the railway company concerned carries out the duties imposed in a very satisfactory manner.

There were 23,187 cattle trucks cleansed and disinfected during the year.

The number of cattle received and forwarded out of the city was as follows :—

### CATTLE RECEIVED INTO THE CITY BY RAIL.

Cattle.	Sheep.	Pigs.	Calves.	Horses.
44,704	253,090	2,310	816	86

### FORWARDED OUT OF THE CITY BY RAIL.

Cattle.	Sheep.	Pigs.	Calves.	Horses.
618	411	1	—	24

In the case of animals moved by road it is necessary that the vehicle used for their conveyance should be cleansed and disinfected as soon as possible after each load of animals has been entirely discharged. It is also necessary that a book giving a record of the stock carried and the dates and places at which the vehicle was cleaned and disinfected shall be available at all times on the vehicle to which it relates. The road vehicles used for this purpose were frequently inspected and the record books examined.



**Foot and Mouth Disease Order of 1928.**

There has been no case of foot-and-mouth disease in the City since 1926, but as Salford is an important distributing centre for Manchester and South East Lancashire the cattle in the lairs are constantly changing, and as they are drawn from a very wide area, including parts of Ireland, England and Wales, one is constantly on the lookout for this disease. On an average approximately 300 cattle and 600 sheep enter and leave the lairs each week, the average duration of stay being three to four days.

**Foot-and-mouth Disease (Boiling of Animal Foodstuffs) Order of 1932.**

This Order is to prevent the introduction of foot-and-mouth disease through the medium of swill or animal offal, etc. The Order provides for the boiling of any meat, swill, bones, offal, etc., before they are fed to, or brought into contact with any cattle, sheep, pigs or goats. The animals chiefly concerned are pigs and for the purpose of supervising the Order, the piggeries in the City are regularly inspected.

**Swine Fever Order of 1908.**

Seventeen outbreaks of swine fever were notified to the Ministry of Agriculture and Fisheries during the year. Sixteen were in carcasses in one of the slaughter-houses and the remaining one was in live pigs on premises in the City. In every case the premises were thoroughly disinfected after the removal of the affected carcasses and the conditions of the Order were observed.

In the one instance where the disease was found in live pigs there were three hundred and ten pigs on the premises and the owner decided to have them all killed. They were moved, on licence, to a slaughter-house, and subsequent examination of the carcasses showed that eighteen were affected.

The total number of carcasses affected with swine fever from all outbreaks was one hundred and four. They were moved to the Corporation Destructor and destroyed by burning under the supervision of an Inspector.

**Lancashire Swine Fever Infected Area Order of 1933.**

The number of outbreaks of swine fever in Lancashire showed no diminution and on the 28th December, 1933, the above Order of the Ministry of Agriculture and Fisheries came into operation. This Order restricted the movement of pigs into, within, and out of the County of Lancaster, and restricted the operations of dealers and market transactions within the County.

In two instances pigs were moved in contravention of this Order; they were moved into the City without a licence authorising the movement having been obtained. The facts were carefully considered and it was decided not to take proceedings in Court but the owners of the pigs and the railway company were warned of the consequences of any further contravention of the Order.

### **Regulation of Movement of Swine Order of 1922.**

This Order divides England into a scheduled and a free area and restricts the movement of pigs within, into, or out of the scheduled area. Salford is in the free area and all pigs coming from a scheduled area have to be accompanied by a licence, the fat pigs moved to slaughter-houses are for immediate slaughter, and the store pigs on arrival at their destination must be detained and isolated for a period of 27 days.

The piggeries and slaughter-houses were visited to see that the provisions of this Order were complied with.

### **THE MILK SUPPLY.**

#### **Milk Supply to the Institutions.**

Three different grades of milk are supplied to the Hospitals and Special Schools, viz., "Pasteurised," Grade "A", and ordinary milk from a selected farm and produced under supervision.

In 1929, the Corporation decided to supply Grade "A" milk to certain of the local Institutions and since then the sources of supply have been unchanged, although the contracts are renewed every twelve months.

The method of milking by machine which was introduced in both the Grade "A" farms about two years ago has proved to be very satisfactory, although the results of the milk samples show that this method is not better than good hand milking.

One of the farms supplies approximately 100 gallons per day. This farm is exceptionally well equipped, the shippings are modern, there is a steam outfit for sterilising the milk utensils, and during the last twelve months a refrigerating plant has been installed so that even in the very hot weather the milk has good keeping qualities. A most important factor regarding this farm is that although the milk is bought as Grade "A" the producer is licensed by the Minister of Health for the production of "Certified" milk, the cattle in the herd being tuberculin tested every six months, so that the Corporation is actually receiving Grade "A" (Tuberculin Tested) milk.

The other farm supplying Grade "A" milk supplies approximately 30 gallons per day. This farm is licenced to produce Grade "A" milk by the Derbyshire County Council and the conditions on the farm are very satisfactory.

The milk supplied to the Special Schools is from a selected farm, and although not produced under licence the conditions specified in the contract are similar to those required for the production of Grade "A" milk.

The cattle on each of the farms supplying the raw milk are frequently inspected by the Corporation Veterinary Inspector, as are also the premises and methods of production.

In addition to supervision on the farms samples of milk are taken on delivery at the Hospitals. The samples are examined for bacterial content. In each case the maximum number of organisms permitted in 1 c.c. of the milk is 200,000, and coliform organisms should be absent in 1/100 c.c.

Fifteen samples taken from one of the Grade "A" farms gave an average bacterial content of 38,833 bacteria per c.c. (this included one sample with a count of 200,000), and in no case were coliform organisms present in 1/100 of a c.c.

In the case of the other Grade "A" farm fifteen samples were taken and the average count was 19,292 bacteria per c.c., in only one instance were coliform organisms present in 1/100 c.c.

The above samples were taken at all times throughout the year and the consistently low counts are an indication of the high standard of cleanliness and efficiency on these farms.

The contract for "Pasteurised" milk is for periods of six months. Two dealers have been supplying this milk during the year, and thirty-three samples, taken on delivery at the hospitals, were examined, giving an average count of 112,563 bacteria per c.c. Five of the samples failed to comply with the standard for "Pasteurised" milk which is 100,000 bacteria per c.c. There is no coliform standard for "Pasteurised" milk, but 12 or 36.6 per cent. of the samples contained coliform organisms in dilutions of 1/10 of a c.c.

## BACTERIOLOGICAL EXAMINATION OF SAMPLES OBTAINED FROM CONTRACT MILK SUPPLY.

	No. of samples examined.	Bacteria per c.c.								Presumptive Coli. Test.			
		0-1,000	1,000-10,000	10,000-30,000	30,000-50,000	50,000-100,000	100,000-150,000	150,000-200,000	Over 200,000	Coli. absent in 1/10.	Present 1/10	Present 1/100	Percentage with Coli. in 1/10.
Pasteurised.....	33	12	8	5	—	3	—	—	5	21	8	4	36.3
Special.....	10	—	3	4	2	1	—	—	—	9	1	—	10.0
Grade "A" (1) .....	15	2	8	2	1	1	—	—	1	14	1	—	6.6
Grade "A" (2) .....	15	5	6	1	2	—	1	—	—	14	—	1	6.6

**Milk (Special Designations) Order, 1923.**

The following licences were issued during the year :—

- 12 Dealers' Licences to sell milk as " Certified."
- 2 Supplementary Licences to sell milk as " Certified."
- 9 Dealers' Licences to sell milk as Grade " A."
- 2 Supplementary Licences to sell milk as Grade " A."
- 2 Dealers' Licences to sell milk as Grade " A " (Tuberculin Tested).
- 1 Supplementary Licence to sell milk as Grade " A " (Tuberculin Tested).
- 16 Dealers' Licences to sell milk as " Pasteurised."
- 3 Supplementary Licences to sell milk as " Pasteurised."

The quantity of milk sold under the above Order is a very small part of the total milk supply, ; many dealers supply only one or two bottles daily. The " Certified " milk, which is the only raw milk that can be confidently recommended as being free from tuberculosis, is prohibitive in price for most people.

There is not much milk sold as " Pasteurised," but the bulk of the milk sold in the City is actually " Pasteurised," although it is not sold as such. This practice is bad, but so long as it is allowed the local authority has no control over the methods employed as it does not come within the scope of the Order.

Four samples of " Certified " milk, three of Grade " A," one of Grade " A " (Tuberculin Tested), and thirteen of " Pasteurised " milk were examined for bacterial content. One Grade " A " (Tuberculin Tested) and one " Pasteurised " sample failed to comply with the maximum standard, 53.8 per cent. of the " Pasteurised " samples contained coliform organisms in 1/10 of a c.c. The presence of coliform organisms in " Pasteurised " milk is a very frequent occurrence and I am of the opinion that their presence is more commonly due to ineffective sterilisation of the cooler, milk churns, and other apparatus used in connection with the plant, and not through inefficiency of the process of Pasteurisation. The usual method of sterilising milk churns is to rinse them and then invert them over a steam jet. They are steamed for a short period and then set aside to drain. To effectively sterilise a 17 gallon churn by this method the steam should be applied for a minimum period of three minutes. I find that in practice the actual time the cans are exposed to the steam is, in most instances, less than half a minute, and very seldom is it longer than a minute.

**BACTERIOLOGICAL EXAMINATION OF MILK SAMPLES.**

Samples of milk for bacteriological examination are submitted to the City Pathologist. One hundred and thirty-two samples were examined for bacterial content and twenty empty milk bottles were tested for efficiency of sterilisation.



" Certified " milk.....	4
Grade " A " (Tuberculin Tested) milk .....	1
Grade " A " milk.....	33
" Pasteurised " milk.....	46
Special Contract milk.....	10
Farm milk.....	28
Special investigation samples.....	10
Empty milk bottles.....	20
Total.....	152

When a sample of farm milk was found to be unsatisfactory a report was sent to the Medical Officer of Health of the producing authority. This usually resulted in the local sanitary inspector visiting the premises, and the receipt of a report from him.

The samples classified as " special investigation " were taken in investigating the efficiency of Pasteurising plants.

A new type of Pasteurising plant was manufactured by an engineering firm in Salford and at the invitation of the makers an efficiency test was carried out.

It is not proposed that a detailed description of the plant be given, but the principle upon which it works is the Pasteurisation of milk in bottles, by submerging the filled bottles in a large bath containing water at varying temperatures. The bottles pass slowly through water of increasing temperatures until a part is reached where the temperature remains constant and after half an hour in this section they pass slowly through water of decreasing temperatures. The pre-heating period takes forty minutes, the bottles are thirty minutes in the holding part, and they take another forty minutes in the cooling off section.

Bottles of milk were sampled before and after Pasteurisation, the temperatures were taken at different stages, a maximum recording thermometer was placed in one of the bottles, and two bottles were inoculated with tubercle bacilli. The temperature in the holding section varied from 140 deg. F. to 152 deg. F. (the maximum temperature reached was 152 deg. F. as shown afterwards by the maximum recording thermometer, but this temperature could only have been reached for a very brief period, the temperature in the holding tank was practically constant at 146 deg. F.). At the time of the test the temperature was controlled by hand but it was the intention of the makers to fix thermostatic controls. The results of these tests were:—

Sample.	Before Pasteurisation.		After Pasteurisation.	
	Bacteria per c.c.	Coliform organisms.	Bacteria per c.c.	Coliform organisms.
1.	1,000	Nil.	120	Nil.
2.	25,000	Nil.	500	Nil.
3.	Not tested.	—	350,000	Present 1/10 c.c.



This test was not considered satisfactory and a second test was made with a slight alteration in method. In the first test the bottles were not totally submerged, about one and a half inches of the neck of the bottle being above water, in the second test the bottles were entirely submerged.

Sample. Before Pasteurisation.			After Pasteurisation.		
	Bacteria per c.c.	Coliform organisms.		Bacteria per c.c.	Coliform organisms.
1.	over 5,000,000	1/1000 c.c.		300	absent.
2.	60,000	absent.		100	absent.
3.	9,000	absent.		Sterile.	absent.

Samples of milk were taken before and after Pasteurisation and examined for tuberculosis. The two samples taken before Pasteurisation produced lesions of tuberculosis in guinea pigs after three weeks, but the two samples taken after Pasteurisation failed to produce lesions in guinea pigs after six weeks.

### MILK BOTTLES.

Twenty empty milk bottles were examined for cleanliness and eight were found to be sterile, three contained a few colonies, and nine were dirty. The large percentage of bottles returned as dirty emphasises the importance of supervising the methods of bottle washing, and of frequently testing washed bottles for cleanliness. In practically every case steam was available and the fault lay in improper application of the steam, either the temperature in the sterilising chest was not high enough, or the bottles were not being exposed to a high temperature for a sufficient length of time. When a dirty bottle was found an Inspector would visit the premises and remain there from the start to the finish of the bottle washing process. Such visits usually resulted in an immediate improvement.

The method of testing the bottles was as follows :—

At the completion of sterilisation a bottle was taken from the steam chest, capped in the usual way, and taken to the Laboratory. The inside of the bottle was lined with galatine broth and it was then kept at room temperature for four or five days. If the bottle was not sterile a number of colonies became visible after two or three days. In the case of a bottle proving dirty it was taken to the dairyman and the numerous colonies pointed out to him. It was found that the demonstration of visible colonies achieved better results than by merely reporting that the bottle was dirty.

The question of sterilisation of milk bottles is regarded as one of the most important factors in milk distribution in consideration of the condition in which some empty bottles are returned, and the numerous houses, yards, dustbins, etc., from which they are collected.

**Tuberculous Milk.**

Three hundred and eighty-six milk samples were biologically examined for tuberculosis.

Origin.	Number examined.	Number positive.
" Certified ".....	4	—
Grade " A " (Tuberculin Tested).....	1	—
Grade " A " .....	4	—
" Pasteurised ".....	17	—
Farm.....	360	38
	386	38

Each sample of farm milk represented a mixed milk from all the milking cows on one farm, and of the three hundred and sixty samples examined, thirty-eight or 10.55 per cent. were positive. This figure is higher than it has been for many years so that there is evidently no improvement so far as tuberculosis is concerned in milk coming into Salford.

The counties of Cheshire and Lancashire are the chief sources of supply, and although Cheshire is again higher than Lancashire with 11.8 per cent. positive compared with 9.9 per cent. positive from Lancashire, the greatest increase during the year was in connection with Lancashire milk.

The practice of inoculating two guinea pigs with each sample of milk and examining one at three weeks and the other at six weeks has been continued. Again this method has justified itself, as ten samples which proved positive at six weeks had been returned negative at three weeks, that is 26.3 per cent. of the positive samples would have been missed if they had been examined at three weeks only.

On a sample being found positive, the Medical Officer of Health of the producing authority was notified and the cattle were examined by the Veterinary Inspectors for the county and for the Corporation.

The examination of the milk cows on the thirty-eight positive farms resulted in one cow being found giving tuberculous milk on twenty-three farms, two cows on four farms, and three cows on one farm, a total of thirty-four cows. These animals were all slaughtered by the respective local authorities under the Tuberculosis Order, 1925.

On ten farms no cow was found affected with tuberculosis at the time of the inspection and a sample of milk, taken from the whole herd, proved to be negative.

Seventeen samples of Pasteurised milk were examined for tubercle bacilli with negative results. The inoculated guinea pigs were killed after six weeks in the case of nine of the samples, but in the case of other eight samples, twelve weeks were allowed to elapse between inoculating and killing the guinea pigs. In every case the results were negative.

TABLE SHOWING NUMBER OF SAMPLES OF MILK OBTAINED FROM VARIOUS COUNTIES, AND THE NUMBER OF PERCENTAGE FOUND TO BE TUBERCULOUS, FOR THE YEARS 1923-1933.

	Year 1923.			Year 1924.			Year 1925.			Year 1926.			Year 1927.			Year 1928.			Year 1929.			Year 1930.			Year 1931.			Year 1932.			Year 1933.			
	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.				
Cheshire .....	123	17	13.8	126	14	11.1	203	22	10.8	157	14	8.9	178	20	11.2	220	23	10.4	240	26	10.8	253	21	8.3	225	20	8.8	195	22	11.2	185	22	11.8	
Lancashire.....	94	5	5.3	76	6	8.0	90	4	4.4	152	7	4.6	124	6	4.8	135	7	5.1	148	14	9.4	156	7	4.4	151	7	4.6	138	6	4.3	121	12	9.9	
Yorkshire .....	21	1	4.7	14	...	...	16	1	6.2	17	1	6.0	41	4	9.7	58	4	6.9	48	1	2.0	41	1	2.4	40	2	5.0	31	...	...	42	2	4.7	
Staffordshire .....	7	...	...	7	1	14.3	2	...	...	1	...	...	8	1	12.5	15	2	13.6	8	2	25.0	7	...	...	5	1	20.0	10	2	20.0	11	2	18.1	
Derbyshire .....	31	...	...	39	2	5.0	14	2	14.3	...	...	...	9	...	...	15	1	6.3	9	1	11.1	1	...	...	1	...	...	...	...	...	1	...	...	
Shropshire .....	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Westmorland .....	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cumberland .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	1	14.2	...	...	...	...	...	...	...	...	...	...
Wales .....	1	1	100	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scotland .....	1	...	...	2	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mixed .....	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	12	2	16.6	9	1	11.1	12	1	8.5	...	...	...	...	...	...	...	...	...	
Pasteurised.....	...	...	...	...	...	...	...	...	...	...	...	...	11	...	...	9	...	...	1	0	0	53	...	...	15	...	...	6	...	...	17	...	...	
Special.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	6	...	...	9	...	...	
Total for year.....	278	24	8.63	265	23	8.7	331	29	8.75	329	22	6.68	371	31	8.3	466	39	8.3	463	45	9.71	530	31	5.8	442	30	6.78	386	30	7.7	386	38	9.8	

\* "Certified," Grade "A" (Tuberculin Tested) and Grade "A" Milks.

**Inspection of Dairies.**

There are 766 persons registered as Retail Purveyors of Milk. Where bottled milk only is sold the premises are not registered as dairies but the occupiers are registered as Retail Purveyors of Milk. There is an erroneous impression abroad that persons who sell bottled milk only do not required to be registered, consequently it is difficult to keep the Register absolutely correct as the bottled milk shops frequently change hands without any application for registration having been made.

Since 1928, there has been a gradual reduction in the number of premises from which loose milk is sold, and a corresponding increase in the number of premises that are restricted to the sale of bottled milk only. There are now only 217 premises registered as dairies. The following table shows the progress that has been made in the change over from loose to bottled milk since the present policy was adopted by the Health Committee in 1928.

	Number selling loose milk.	Number selling bottled only.	Total persons registered.
1928.....	760	—	760
1929.....	471	222	693
1930.....	361	329	690
1931.....	342	374	716
1932.....	262	499	761
1933.....	237	529	766

When a dairy is considered unsuitable for the sale of loose milk the occupier is given the opportunity of voluntarily selling only bottled milk. If he is unwilling to do this he is summoned to appear before the Committee to show cause why he should not be removed from the Register. If it is decided to remove him from the Register he is then re-registered as a milk purveyor but his premises are not re-registered as a dairy.

In order to remove a person from the Register the procedure prescribed by the Milk and Dairies (Amendment) Act, 1922, has to be carried out. It is a laborious method, and even where no appeal is made the average time elapsing between reporting it as unsuitable until it must finally cease to be used as a dairy is six weeks. By this method very slow progress indeed would be made if the majority of the milk purveyors did not voluntarily give up the sale of loose milk.

During the year twenty-six applications for registration as Retail Purveyors of Milk were received, twenty-four were granted and two were refused. The two who had been refused registration, and seven registered milk purveyors, appeared before the Health Committee in accordance with Section 2 of the Milk and Dairies (Amendment) Act, 1922. This resulted in two persons being refused registration, four being removed from the Register, and three allowed to remain on the Register subject to certain alterations to the premises being carried out.



Included in the number of dairies are fifty-seven dairies which may be classified as large milk dealers and roundsmen. These premises were frequently visited and attention paid to the storage accommodation, cleanliness of premises and utensils, and methods of cleaning utensils and bottles. Some of the smaller of these premises, which have been in existence many years, are rather cramped, but this alone is not considered sufficient cause for removal from the Register provided that the premises are kept clean and that they are equipped with a satisfactory steam sterilising plant. The dairies are generally satisfactory and apart from a few minor irregularities no cause for serious complaint was found.

There were two prosecutions under the Milk and Dairies Order, 1926.

Proceedings were taken against one retailer for contravening Article 6 (3) of the Order—unlawfully carrying on the trade of dairyman in Salford, he not being registered. The defendant was convicted and was fined 10s. and ordered to pay 20s. costs.

Proceedings were also taken against a retailer for contravening Article 33 of the Order—interior of vehicle used for the conveyance of milk not being kept clean. The defendant was convicted and fined 10s. and ordered to pay 10s. costs.

### Inspection of Meat.

TABLE OF MONTHLY SEIZURES OF DISEASED AND UNSOUND FOOD DISCOVERED DURING ROUTINE INSPECTION, AND OF UNSOUND FOOD SURRENDERED BY THE OWNER THEREOF DURING 1933.

Month.	No. of seizures.	Beef lbs.	Mutton lbs.	Pork lbs.	Veal lbs.	Miscel. lbs.	Total.
January.....	226	3,882	88	6,076	120	—	10,166
February .....	172	2,650	41	5,002	244	—	7,937
March.....	212	3,596	276	3,660	120	—	7,652
April.....	217	1,522	202	11,142	55	—	12,921
May.....	134	2,074	—	7,612	—	—	9,686
June.....	74	1,359	—	2,412	—	1 case oranges.	3,771
July.....	63	1,654	—	1,582	—	252 fish.	3,488
August.....	87	1,180	234	4,150	90	—	5,654
September.....	136	880	6	4,910	—	—	5,796
October.....	297	2,324	54	9,058	—	—	11,436
November.....	209	3,006	337	3,928	—	—	7,271
December.....	212	1,093	—	6,838	—	—	7,931
	2,039	25,220	1,238	66,370	629	252	93,709



TABLE SHOWING THE AMOUNT OF FOOD CONDEMNED FROM VARIOUS CAUSES DURING 1933.

No. of seizures.	Cause of seizure.	Weight in lbs.
1,315	Tuberculosis.....	54,997
141	Distomatosis.....	904
106	Cirrhosis.....	844
104	Swine Fever.....	18,610
101	Pleurisy.....	1,240
59	Hydatid Cysts.....	474
52	Pneumonia.....	1,220
23	Decomposition.....	2,683
17	Moribund.....	3,730
15	Abscess.....	330
13	Mastitis.....	208
11	Cavernous Angioma.....	132
11	Jaundice.....	1,700
9	Injury.....	653
7	Emaciation.....	1,230
6	Peritonitis.....	665
6	Fly Blown.....	56
5	Actinomycosis.....	150
5	Immature.....	304
5	Fatty Degeneration.....	58
5	Septicæmia.....	1,100
4	Pyæmia.....	580
3	Nephritis.....	10
2	Pericarditis.....	20
2	Swine Erysipelas.....	320
2	Oedema.....	435
2	Fatty Infiltration.....	8
2	Dropsy.....	300
1	Bacterial Necrosis.....	6
1	Johnnes Disease.....	150
1	Uræmia.....	160
1	Melanosia.....	10
1	Spoilage by ammonia gas.....	422
1	Unsound.....	1 case Oranges.
<hr/>		<hr/>
2,039		93,709 1 case Oranges.
<hr/>		<hr/>

Of the total weight of meat seized 24 tons 11 cwts. 0 qrs. 5 lbs., or 58.6 per cent. was seized on account of tuberculosis.

#### Slaughter-houses.

There are seven licensed private slaughter-houses and one public slaughter-house in the City.

Three of the private slaughter-houses are used for the killing of pigs only. The public slaughter-house is divided into booths, and part is let to a private butcher, part to a horse slaughterer, and the remainder used for casual slaughtering.

The slaughter-houses have been visited whenever slaughtering has taken place, 2,713 visits having been made.

#### NUMBER OF CARCASSES INSPECTED.

	Number inspected.
Cattle.....	1,655
Sheep.....	14,286
Pigs.....	15,905
	<hr/> 31,846 <hr/>

#### Retail Meat Shops.

Six hundred and eighty-five visits of inspection were made to retail meat shops. It is not necessary for retail butchers to be registered, but a register is kept by the Department as it ensures better supervision. Compulsory registration would be much more satisfactory for by the present method it is impossible to keep the register strictly correct as new shops are frequently opened and the existing ones are constantly changing hands.

Generally speaking the retail meat shops are kept in a satisfactory manner but occasionally complaint has to be made regarding general untidiness, such as allowing rubbish to accumulate and litter the floor.

If the practice were adopted of tidying up before the shop is opened, or after it is closed, and not at any time during the day, as is customary, I am sure conditions could be much improved.

Complaints have also been made regarding the disposal of bones and other refuse, failure to take proper precautions for the prevention of contamination by dust, dirt, etc., and perhaps the commonest cause for complaint is the failure to label imported meat in the manner laid down by the Sale of Food Order, 1921.

In a few instances unsound meat was found, but with one exception the occupiers were allowed to surrender it for destruction. In this case some unsound meat was seized from premises at the rear of a shop of the mixed business type. The room in which the meat was kept was dirty and untidy, and proceedings were taken against the occupier of the shop for contravening (a) Section 117 of the Public Health Act, 1875, by having in his possession unsound meat, intended for the food of man, (b) Regulation 20 (2) of the Public Health (Meat) Regulations, 1924, by causing solid refuse and filth to accumulate in the room, and (c) Regulation 20 (3) of the Public Health (Meat) Regulations, 1924, by not causing the walls and ceiling of the room to be whitewashed. The defendant was convicted of the three offences charged against him and was fined 40s. in respect of the unsound meat and 20s. in respect of each of the other contraventions, a total of £4.

**Food Preparing Premises.**

The food preparing premises are chiefly premises where meat products, such as brawn, sausages, black puddings, pies, etc., are made.

The premises are regularly visited, attention being paid to cleanliness of the premises and utensils, and the handling and condition of the meat. In several instances fault was found regarding the general untidiness of the premises but in no case was it necessary to take proceedings. Some of the premises are rather cramped for room, but generally speaking they may be regarded as satisfactory.

**Bakehouses.**

The domestic bakehouses are under the supervision of the Sanitary Department, but bakehouses where males are employed are supervised by the Veterinary Department. There are twenty-five such bakehouses, and as in the case of food preparing premises, the most frequent cause for complaint was untidiness. Complaints made by the Inspectors resulted in a satisfactory improvement being made in every case.

**Offensive Trades.**

The following is a list of the offensive trades in the City. There have been no complaints arising from these trades.

## NATURE OF TRADES.

Tripe Dressing.....	4
Soap Works.....	3
Tanneries.....	1
Skin Dressers.....	1
Gut Scrapers.....	2
Total.....	11

There has been one new offensive trade registered during the year, this was in respect of a soap works.

## SECTION V.

# Pathological Laboratory Report

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The work carried out for 1933 at the City Laboratory and at Hope Hospital Laboratory is shown in tabulated form.

There is still a steady increase in the number of investigations made, particularly in the work done at Hope Hospital, which has gone up nearly 50 per cent. The new Laboratory was opened there in May, and the greater space and accommodation provided has enabled the work to be done much more easily, thus economising in time and also giving opportunities to carry out various investigations which it was impossible to attempt in the old Laboratory for lack of space, time, and apparatus.

During the past two years, in addition to the routine work of the Laboratory, the following work on pneumonia has been done by Dr. Stent.

- (1) All cases of pneumonia admitted to the Hospital have their sputa typed and are thus classified into types I, II, III, and group IV.
- (2) Blood cultures are done on each case, in order to detect the presence or absence of a generalised blood infection.
- (3) Tests are made daily on each case to detect the appearance of antibodies to the pneumococcus in the blood.

The reason for these investigations is to try and establish, in co-operation with the medical staff of the Hospital, a rational basis for treatment of pneumonia by serum; that is to indicate:—

- (1) If case is suitable for serum treatment.
- (2) If so, how much serum should be given.
- (3) When serum treatment should be discontinued.

The appended table, supplied by Dr. Langley, gives the type classification for the past two years.

It shows that over 50 per cent. of pneumonias occurring during that period were due to type I pneumococcus and approximately 12 per cent. to type II. At present a serum is supplied for type I pneumonia, which, if given not later than the fifth day of the disease, has been shown (Medical Research Council Report, 1934) to reduce the mortality rate in the age groups from 20 to 40 years by one-half. Up to now no definite reduction in mortality has been shown in the age groups 40 to 60 years, but the remedy has not been fully tried out yet.

In addition to bringing down the mortality rate, serum treatment in those cases which recover appears to shorten the course of the disease, and to diminish the incidence of serious complications. A serum is also on the market for type II pneumonia which gives similar beneficial results though not quite so marked as in the case of type I.

At present there are no satisfactory sera for treatment of type III and group IV pneumonia, but fortunately type III is very rare and group IV has usually a comparatively low mortality rate.

There is a consensus of opinion that it is probably useless to give serum treatment to pneumonia later than the fifth day of the disease, and some observers state that it should not be given later than the third day.

Naturally, as in diphtheria, the earlier treatment is given the better the prognosis.

Until recently the price of anti-pneumococcus serum was almost prohibitive, averaging over £40 per patient, but within the last few months an effective serum has been produced at an average cost of approximately £3 per patient.

Under these circumstances it is advisable that all cases of pneumonia which are seen early enough should be sent into hospital not later than the third day for investigation, with a view to giving serum treatment.

### PNEUMONIA.

#### TWO SETS OF FIGURES.

First Series :—October, 1931, to September, 1932.

Second Series :—October, 1932, to September, 1933.

#### FIRST SERIES :—

	Recovered.	Died.	Mortality.
Type I.....	48	13	25%
Type II.....	14	11	44%
Type III.....	—	1	100%
Group IV.....	22	5	18%
Unclassified.....	11	9	45%

Total, 134.      39 Died.      95 Recovered.      **General Mortality, 30%.**

#### SECOND SERIES :—

	Recovered.	Died.	Mortality.
Type I.....	77	20	21%
Type II.....	20	22	45%
Type III.....	Nil.	3	100%
Group IV.....	28	8	22%

Total, 178.      53 Died.      125 Recovered.      **General Mortality, 30%.**





## SECTION VI.

## Report relating to the City Analyst's Department.

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During the year, 1,664 samples have been analysed, of which 1,337 were submitted under the Food and Drugs Act, 12 under the Fertilisers and Feeding Stuffs Act and 315 were miscellaneous. In addition, 1,160 sunlight tests by the chemical method were made at four stations and 290 tests by the photographic method were carried out at Regent Road. At Regent Road work of an investigative nature was undertaken into various methods of measuring daylight and ultra violet light. This work is still in hand: it is hoped that an account of it may be given in a subsequent report.

### **Samples taken under the Food and Drugs Act.**

In July, 1933, the work of the Departmental Committee on Food Law was resumed. This Committee had been appointed to report to the Minister of Health and

“ To consider whether it is desirable that the law relating to the composition and description of articles of food should be altered so as to enable definitions or standards to be prescribed or declarations of composition to be required for articles of food other than liquid milk; and if so to recommend what alterations of the law are required.”

It is to be regretted that the Committee's terms of reference excluded them from a consideration of the effect of the Food and Drugs Act upon the sale of liquid milk or of drugs. Since the Committee has recommended an alteration and consolidation of the law relating to foods it is a pity that certain anomalies concerning milk and drugs should not be dealt with at the same time. Within the limitations imposed it may be said the Committee has worked rapidly and well. They conclude that while the case for the extension of standards or definitions for all foods is not made out, it is nevertheless desirable that the law should be altered so as to enable definitions or standards to be prescribed or declarations of composition to be required for articles of food other than liquid milk. This does not mean that—if Parliament follows the recommendation—

standards will necessarily be prescribed for such foods, but only that the Minister of Health will be given power to make a standard in any case where he deems it advisable. This is the general answer of the Committee to the question put to them: the three following short abstracts give other points from the Report (Cmd. 4564—1934).

1. We think the main thing to be aimed at is that the public, when buying any important article of food, should know what they are getting.
2. We have formed the opinion that a large proportion of the food manufactured in this country reaches a high standard of quality and that many manufacturers take a pride in the production of good quality articles and exercise great care in their manufacture.
3. A number of our witnesses have complained of the misleading nature of some food advertisements and food labels. We are satisfied that these complaints are well founded. The Food Manufacturers' Federation, Patent and Proprietary Foods Section, put the following recommendation before us:—

“ It is our opinion that any attempt to control by statute statement about the composition of food will be stultified unless it is legally enacted that, for purposes of evidence as to the nature, quality and substance demanded of a food specific claims made in advertisements shall be deemed to be part of the package label. Though it is theoretically true that the purchaser is expected to examine the label of a product before he completes its purchase, it is a matter of common knowledge that the vast majority of purchasers do not do so. The description on which they have been induced to buy the product is in a large number of cases only that contained in the advertisements, and we hold very strongly that progress in the standardisation and description of food will be seriously hampered until this matter is dealt with.”

We agree with the principle of this recommendation.

Your Public Analyst (who had the honour of giving evidence on behalf of the Parliamentary Committee on Food and Health before this enquiry) is especially gratified that, as is shown by the last quotation (3 above), the Departmental Committee should have been convinced that some legal control of the advertisement of foodstuffs is necessary. This is a point which has been stressed in many reports previous to this, both by your present Analyst and his predecessors, Mr. G. D. Elsdon and Mr. H. H. Bagnall.

Table I gives details of the samples purchased under the Food and Drugs Act. The remaining tables are self-explanatory.

TABLE 1.

SAMPLES.	Number Examined.	Number Adulterated.		Per cent. Adulteration.
		Preservatives Only.	Other Ways.	
Milk.....	1,006	—	42	4.17
Cream .....	4	—	—	—
Skimmed Milk.....	5	—	3	60
Condensed Milk.....	10	—	—	—
Butter.....	16	—	—	—
Cheshire Cheese.....	16	—	—	—
Cheese (other varieties).....	5	—	—	—
Lard.....	5	—	—	—
Fruit Cream.....	1	—	—	—
Artificial Cream.....	2	—	—	—
Sausage.....	18	1	2	16.6
Salmon Paste.....	1	—	—	—
Potted Meat.....	2	—	—	—
Tinned Fish .....	7	—	—	—
Vinegar.....	8	—	—	—
Tea.....	10	—	—	—
Coffee.....	8	—	—	—
Coffee and Chicory.....	1	—	—	—
Cocoa.....	10	—	—	—
Pepper.....	4	—	—	—
Ground Ginger.....	4	—	—	—
Cinnamon.....	1	—	—	—
Baking Powder.....	6	—	1	16.6
Rice.....	9	—	—	—
Currants .....	5	—	—	—
Sultanas.....	5	—	—	—
Glace Cherries.....	5	—	—	—
Prunes.....	4	—	—	—
Apricots.....	1	—	—	—
Candied Peel.....	5	—	—	—
Lemon Cheese.....	6	—	—	—
Syrup.....	7	—	—	—
Borax.....	14	—	1	7.14
Epsom Salts.....	10	—	—	—
Rochelle Salts.....	5	—	—	—
Glauber Salts.....	5	—	—	—
Seidlitz Powder.....	5	—	—	—
Tincture of Iodine.....	6	—	—	—
Ammoniated Tincture of Quinine.....	5	—	—	—
Quinine Sulphate Tablets.....	5	—	—	—
Caffeine.....	2	—	—	—
Caffeine Citrate .....	3	—	—	—
Adrenalin Hydrochloride....	1	—	—	—
Cod Liver Oil.....	1	—	—	—
Cod liver Oil Tablets.....	1	—	—	—
Benzoated Lard.....	1	—	—	—
White Precipate Ointment.	5	—	1	20
Zinc Ointment.....	6	—	—	—

TABLE 1.—Continued.

SAMPLES.	Number Examined.	Number Adulterated		Per cent. Adulteration
		Preservatives Only.	Other Ways.	
Sweets.....	4	—	—	—
Toffee.....	8	—	—	—
Chocolate.....	9	—	—	—
Ground Almonds.....	5	—	—	—
Medicinal Sweets.....	6	—	—	—
Tripe.....	5	—	—	—
Mint.....	2	—	—	—
Whiskey .....	16	—	3	18.75
Fruit Essence.....	10	—	—	—
	1,337	1	53	4.04

TABLE 2.

## PERCENTAGE ADULTERATION—SALFORD.

	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
Percentage of Adulteration....	4.3	7.7	4.5	4.3	4.7	3.0	3.2	3.3	2.9	4.04
Total Samples.....	1544	1396	1387	1452	1484	1491	1556	1445	1286	1337
Formal Samples..	775	752	765	744	733	727	598	574	462	521
Informal „ ..	769	644	622	738	751	764	958	871	824	816
No. of Samples per 100,000 of the population.	641	572	563	593	593	596	622	642	576	607

TABLE 3.

## ADULTERATION OF MILK.

Year.	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
Number of Samples.	923	779	833	921	994	1028	1103	1100	1106	1003	885	1006
Percentage Adulteration ....	5.3	5.4	2.6	4.7	2.5	2.1	3.9	2.5	3.3	2.1	1.7	4.2

## MILK ADULTERATION—ENGLAND AND WALES.

Year.	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
Percentage Adulteration ..	7.7	7.8	7.7	8.3	7.4	6.9	8.2	7.8	6.6	6.4	7.3	—



TABLE 4.

AVERAGE COMPOSITION OF ALL MILK, 1933.

Month.	Number of Samples.	Total Solids per cent.	Fat per cent.	Solids-not-fat per cent.
January.....	86	12.35	3.49	8.86
February.....	75			
March.....	101			
April.....	90	12.23	3.45	8.78
May.....	102			
June.....	84			
July.....	85	12.24	3.51	8.73
August.....	65			
September.....	82			
October.....	93	12.42	3.61	8.81
November.....	84			
December.....	59			
	1,006	12.30	3.51	8.79

TABLE 5.

AVERAGE COMPOSITION OF FARMERS' MILK, 1933.

Month.	Number of Samples.	Total Solids per cent.	Fat per cent.	Solids-nor-fat per cent.
January.....	27	12.46	3.56	8.90
February.....	20			
March.....	26			
April.....	26	12.28	3.51	8.77
May.....	25			
June.....	37			
July.....	48	12.28	3.53	8.76
August.....	22			
September.....	26			
October.....	20	12.68	3.77	8.91
November.....	17			
December.....	31			
	325	12.40	3.58	8.82

TABLE 6.

AVERAGE COMPOSITION OF MILK OTHER THAN FARMERS' MILK, 1933.

Month.	Number of Samples.	Total Solids per cent.	Fat per cent.	Solids-not-fat per cent.
January.....	59	12.32	3.47	8.85
February.....	55			
March.....	75			
April.....	64	12.21	3.43	8.78
May.....	77			
June.....	47			
July.....	37	12.22	3.50	8.72
August.....	43			
September.....	56			
October.....	73	12.32	3.56	8.76
November.....	67			
December.....	28			
	681	12.25	3.48	8.77

TABLE 7.

MILK ADULTERATION.

No.	Nature of Adulteration.	Action Taken.	Remarks.
6211	Deficient 3.3% fat.	Further samples. Caution by the Medical Officer of Health.	Supply improved. Two visits to the Farm. Supply improved.
6243	Deficient 16.6% fat.		
6244	Deficient 30% fat.		
6383	Deficient 6.6% solids-not-fat.	Caution by the Medical Officer of Health.	Supply improved.
6418	Deficient 6% fat.	None.	16 other samples genuine.
6480	Deficient 3.3% fat.	Further sample. Shopkeepers supplied by the same dairyman.	Grade A milk.
6514	Deficient 2.35% solids-not-fat		
6515	Deficient 6.6% fat.		
6518	Deficient 3.3% fat.	Further samples.	Quality improved under observation.
6534	Deficient 2.35% solids-not-fat		
6549	Deficient 10% fat.		
6554	Deficient 3.3% fat.	None.	16 other samples genuine.
6571	Deficient 2.35% solids-not-fat	Further samples genuine. Farm visit. See No. 6581.	6 other samples genuine.
6577	Deficient 2.35% solids-not-fat and 26.6% fat.		
6581	Deficient 2.35% solids-not-fat		
6587	Deficient 13.3% fat.	Appeal to cow.	Further samples good quality.

TABLE 7.—Continued.

No.	Nature of Adulteration.	Action Taken.	Remarks.
6629	Deficient 13.3% fat.	Observation.  Caution.	13 other samples at same time genuine. Supply improved. Milking machine, Strippings not mixed in. Informal sample
6632	Deficient 13.3% fat.		
6643	Deficient 3.3% fat.		
6858	Deficient 16.7% fat.		
6893	Deficient 11.7% solids-not-fat	See No. 6919.	Formal sample see No. 6919.
6898	Deficient 12.9% solids-not-fat		
6919	Deficient 7.9% solids-not-fat and 5% fat.	Prosecution.	Fined £10 and £2 2s. 0d. costs.
6920	Deficient 4.7% solids-not-fat.	Appeal to cow <i>re</i> No. 6919.	Deficiency only apparent. A genuine rich milk. Separated milk.
6925	Deficient 6.9% solids-not-fat.	None.	Informal. Subsequent formal sample satisfactory.
6957	Deficient 13.3% fat.	None.	One of 4 samples. Remainder genuine.
6970	Deficient 6.6% fat.	None.	
6980	Deficient 13.3% fat.	None.	Informal. Subsequent formal samples genuine. Farmer supplying Institution. Occurred during changes for improvement of herd. Further samples good.
6994	Deficient 6.6% fat.	None.	
6996	Deficient 6.6% fat.		
6998	Deficient 6.6% fat.		
7001	Deficient 2.35% solids-not-fat.	Observation.	Further samples satisfactory.
7013	Deficient 2.35% solids-not-fat	Further sample.	Supply improved.
7014	Deficient 1.2% solids-not-fat		
7022	Deficient 10% fat.	Formal sample taken See No. 7035.	Informal.
7023	Deficient 10% fat.		
7035	Deficient 3.5% solids-not-fat.	Caution.	Supply improved.
7075	Deficient 3.5% solids-not-fat.	Further samples.	Satisfactory.
7083	Deficient 10.1% solids-not-fat.	Caution by the Medical Officer of Health.	Separated Milk.
7086	Deficient 2.35% solids-not-fat.	None.	7 other samples genuine.
7220	Deficient 6.7% fat and 11.7% solids-not-fat.	Police Prosecution	All the milk of the same dairyman. As a result of these samples, hidden detectives caught an employee in the act of watering further churns.
7252	Deficient 43.3% fat and 25.9% solids-not-fat		
7254	Deficient 1.2% solids-not-fat		
7256	Deficient 40% fat and 25.9% solids-not-fat.		
7283	Deficient 2.8% solids-not-fat.	Caution.	Separated milk.

TABLE 8.

## ADULTERATED SAMPLES OTHER THAN MILK.

No.	Description.	Nature of Adulteration.	Remarks.
6262	Borax.....	Arsenious oxide, 8 parts per million.	Caution. Retailer withdrew whole of consignment from sale.
6317	Baking Powder.....	Available carbon dioxide 5.5%.	Probably a deteriorated sample. Caution.
6743	White Precipitate Ointment.	Deficient 50% ammoniated mercury.	Caution.
7094	Sausage.....	Contained sulphite preservative without declaration.	Caution.
7095	Sausage.....	Meat 45%. Deficient in meat.	Caution.
7180	Sausage.....	Meat 45%. Deficient in meat.	Caution.
7525	Whiskey .....	40° under proof.....	All from same vendor. Loss probably due to evaporation. Caution.
7532	Whiskey .....	38.2° under proof.....	
7533	Whiskey .....	35.4° under proof.....	

**Borax.**

The British Pharmacopœia prescribes a limit of 5 parts per million of arsenic. Sample No. 6262 contained 8 parts. There is no cause for alarm in such an amount, though careful manufacture will result in an arsenic content of about one part per million. The figures usually obtained for refined borax are below this. Your Inspector saw the retailer of this sample who withdrew the whole of the consignment from sale.

### **Baking Powder.**

There is no official standard for baking powder. Good quality powders usually provide about 10 per cent. of carbon dioxide gas when wetted. At various times 6 per cent. and 8 per cent. have been put forward as reasonable standards: the latter does not seem to be too high. Sample 6317 contained 5.5 per cent. The Inspector bought this article loose from a small shop doing a mixed business and it seemed not unlikely that it had deteriorated as a result of careless storage. The Inspector cautioned the shopkeeper and at the same time advised him on the proper care and storage of baking powder.

### **White Precipitate Ointment.**

Sample No. 6743 contained but 2.5 per cent. of ammoniated mercury instead of the 5 per cent. ordered by the formula of the Pharmacopœia. The firm was cautioned.

### **Sausage.**

Sample No. 7094, sold as fresh sausage, contained 110 parts per million of sulphite preservative. Had a notice been displayed at the time of the sale, no offence would have been committed. Samples Nos. 7095 and 7180 were informal and formal samples respectively from the same vendor. Each contained about 45 per cent. meat, 40 per cent. bread, and 15 per cent. added water. While this composition is regarded as a definite debasement of what a sausage ought to be there is, of course, no standard and as the makers were a small firm, it was decided to take no action, and the case was dealt with by means of a caution.

Since the war time standard was 55 per cent. of meat it might be difficult to set up a more stringent one at the present time in a local court.

### **Whiskey.**

The legal limit for spirits is, of course, 35 degrees under proof. In this case, the Inspector found that the vendor kept his stock in a large glass vessel with a glass stopper. The glass stopper had a hole bored through it (probably being an odd stopper used to replace the old one which had been lost or broken). Consequently evaporation might well have accounted for the deficiencies found. In view of these circumstances the vendor was strongly cautioned in a letter from the Medical Officer of Health and the Inspector also saw him and pointed out that the stopper must be replaced and also that proceedings would be instituted in the event of any future discrepancies.



TABLE 9.

## Miscellaneous Samples.

Rainwater (soot gauges) .....	48
Sulphur gauges.....	24
Waters.....	10
Air.....	4
Milk.....	13
Breast milk.....	2
Margarine.....	5
Bread.....	48
Cake.....	9
Paint.....	2
Soap.....	16
Soft Soap.....	4
Soap Powder.....	1
Turpentine.....	1
Coke.....	2
Asphalt.....	1
Insecticides .....	4
Capsules (Carbon Tetrachloride).....	1
Bottle Moulding Preparation.....	1
Urine.....	1
Miscellaneous Health Department Samples.....	18
Police Samples.....	64
Coroner's Samples.....	33
Miscellaneous Toxicological Samples.....	3
	<hr/>
	315
	<hr/>

The samples of milk, margarine, bread, cake, coke, insecticides and urine were received from the Health Department. The miscellaneous Health Department samples included ointments, tablets, cod liver oil and malt, infant food, refrigerator brine and boiler scale.

The waters were received from the Health Department and the City Engineer and the soaps from the Baths and Health Departments. The paints, turpentine and asphalt were examined for the City Engineer. The Police

samples were rather more varied than usual and included exhibits in cases of murder (two), abortion, rape, theft of scrap metal, and uttering base coins. Organs and many exhibits were received from the Salford Coroner in connection with an enquiry resulting from the loss of a passenger aeroplane.

The miscellaneous toxicological samples included hair and urine from a case of suspected chronic arsenical poisoning.

TABLE 10.

## MEASUREMENT OF DAYLIGHT.

Month, 1933.	Regent Road.	Nab Top Sanatorium Marple.	Ladywell Sanatorium.	Drinkwater Park.
January.....	38.3	104.4	61.9	56.0
February.....	60.7	91.0	69.9	69.8
March.....	134.3	178.8	163.2	154.6
April.....	122.9	264.3	235.8	233.7
May.....	156.6	244.5	181.8	183.1
June.....	87.7	197.6	192.0	183.6
July.....	259.0	336.2	370.5	350.7
August.....	360.5	294.0	287.1	268.5
September.....	228.0	262.7	227.8	217.9
October.....	119.5	156.9	119.0	107.9
November.....	40.7	99.0	85.5	75.0
December.....	19.4	82.3	79.3	52.3
Yearly Totals.				
1933.....	1627.6	2311.7	2073.8	1953.1
1932.....	1796.7	2123.6	1958.6	1819.1
1931.....	1450.6	2084.5	1714.5	1751.5
1930.....	1589.7	1895.0	1731.2	1642.2
1929.....	1559.0	1932.9	1772.2	1781.5
Yearly average for five years.....	1604.0	2069.0	1850.0	1769.0
Comparative percentage figures.....	77.5	100.0	89.4	85.5
Loss against Nab Top Sanatorium.....	22.5	—	10.6	14.5

The measurement of daylight by the potassium iodide method has been continued. The totals for the past five years are given in the above table together with the yearly average. This period seems sufficiently long to rule

out the variations due to weather, and it seems safe to take these averages as affected by man-made and not by climatic differences. Taking Nab Top in the country as a standard the losses of daylight (or more exactly that part of the solar radiation affecting the potassium iodide test) at the other stations are Regent Road 22.5 per cent., Ladywell Sanatorium 10.6 per cent. and Drinkwater Park 14.5 per cent. These losses are in the main due to city smoke. The average distance between Nab Top and the other three stations is eleven miles.

#### **Examination of Soot Gauge Deposits.**

The work of examining the deposit in the special gauges placed at various points in the City has been continued. Standard gauges are situated at Peel Park, Salford, Ladywell Sanatorium, Drinkwater Park Hospital and the Corporation Sanatorium at Marple, Cheshire.

In uniformity with the results expressed by other stations, of which there is a number scattered throughout Great Britain, the results are expressed in metric tons per square kilometre. The metric ton is equivalent to slightly more than the British ton, whilst there are 2.59 square kilometres to the square mile so that to convert metric tons per square kilometre to English tons per square mile, it is necessary to multiply by 2.55 or, roughly,  $2\frac{1}{2}$ . The following are the average monthly results that have been obtained during the year. The results from Ladywell Sanatorium and Drinkwater Park are very similar and are rather less than the City area, whilst, as was to be expected, the air at Marple is, comparatively speaking, "pure."

In order that comparison may be made with other districts, the average figures are given for the gauges, giving the greatest and least deposits. The gauge showing the least deposit is Western Park, Leicester, and that showing the greatest is Ashington, on the North East coast, near Newcastle-on-Tyne.

Perhaps the most noticeable feature of the results is the acid nature of the deposits. This is shown by the pH values of the water collected. The pH due to the carbonic acid in the air would be about 5.5. Figures below this, therefore, indicate an acid deposit, and higher figures an alkaline reaction. Considering that Marple is fairly well in the country, and shows a general record better than those obtained in the City, its acid rainwater is noteworthy. This shows how widespread may be the drift of the acid smoke from our cities.

TABLE 11.

## SOOT GAUGE OBSERVATIONS.

Monthly Averages : Metric Tons per Square Kilometre.

	Salford : Peel Park.	Salford : Ladywell Sanatorium.	Salford : Drinkwater Park.	Marple : Nab Top Sanatorium.	*Leicester : Western Park.	*Liverpool : Netherfield Road.
Rainfall in millimetres.....	33.0	50.9	53.6	51.9	52.0	65.0
Tar.....	0.16	0.09	0.07	0.05	0.05	0.18
Carbonaceous Matter other than tar.....	2.06	1.73	3.76	0.65	0.43	2.89
Ash.....	2.76	1.94	2.04	0.76	0.79	9.49
Loss on ignition.....	0.74	0.72	0.91	0.57	0.75	2.98
Ash.....	1.52	1.53	1.48	1.11	1.14	3.96
Total Solids.....	7.24	6.01	5.42	3.14	3.15	19.50
Sulphates.....	0.65	0.77	0.72	0.65	0.55	2.02
Chlorine.....	0.56	0.75	0.62	0.50	0.22	1.08
Ammonia.....	0.02	0.01	0.01	0.01	0.04	0.12
Acidity.....	0.18	0.30	0.30	0.15	—	0.36
pH.....	3.6	3.8	3.7	4.2	6.1	4.4

\* Figures from April, 1932, to March, 1933.

**TABLE 12.**  
pH VALUES FOR THE FOUR STATIONS.

Month.	Peel Park.	Drinkwater Park.	Ladywell Sanatorium.	Nab Top Sanatorium, Marple.
January.....	3.8	4.0	4.0	4.4
February.....	—	4.1	3.9	4.5
March.....	3.5	3.8	3.8	4.4
April.....	3.2	3.6	3.8	4.2
May.....	3.4	3.6	3.6	4.0
June.....	3.8	—	4.2	4.3
July.....	3.6	—	3.4	4.0
August.....	3.4	3.4	3.8	4.4
September.....	3.8	3.8	3.9	4.3
October.....	3.4	3.8	3.6	4.4
November.....	3.2	3.8	3.8	4.2
December.....	4.0	3.6	3.5	3.6
Average for 1933.....	3.6	3.7	3.8	4.2



## SECTION VII.

# Maternity and Child Welfare Department, Municipal Maternity Home and Babies' Hospital, and the Supervision of Midwives.

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**Staff.**

3 Lady Medical Officers.

1 Assistant Inspector of Midwives.

16 Health Visitors.

3 Masseuses, 2 of whom are also employed in the Artificial Sunlight Clinic.

7 Clerks.

**Medical Officers.**

The Medical Officers conduct all examinations of mothers and children attending the Clinics and Centres.

The Senior Medical Officer attends five Child Welfare Sessions, two Sessions for consultation *ie* Artificial Sunlight treatment, and one Ante-natal Clinic per week, supervises the work of the Health Visitors, and attends one Ante-natal and one Child Welfare session per month at the Royal District Nurses' Home. In addition, she attends meetings of four Voluntary Societies who undertake work in connection with Maternity and Child Welfare, is Supervisor of Midwives, and has charge of the administration of the department. She also visits and inspects the children at the nine Nursery Classes and the Nursery School.

The second Medical Officer has charge of the Municipal Maternity Home and Babies' Hospital, in addition to which she attends three Child Welfare Centres and two Ante-natal Clinics weekly.

The third Medical Officer attends Child Welfare Clinics and Centres during seven Sessions per week; she also attends two Ante-natal Sessions and one Diphtheria Immunisation Clinic. She is also on call as Anaesthetist and does relief work at the Municipal Maternity Home and Babies' Hospital.

**Health Visitors.**

Each Health Visitor is allotted a district to the visiting of which most of her time is devoted. It is the duty of the Visitor to visit each child born on her district, and to keep a record of its progress until it reaches the age of five

years. A record is also kept of all details connected with the sanitary state of the house and the health of its occupants. In addition, the Health Visitors carry on the work at the various Maternity and Child Welfare Centres throughout the City. One Health Visitor devotes half her time to the work involved by the administration of the Children Act, 1908.

The following table shows the number of visits paid by the Health Visitors in the various wards of the City during 1933 :—

TABLE C.W. 1.

Wards.	First Visits to Ex- pectant Mothers.	First Visits to Children under 1 year.	Total Visits to Children under 1 year.	Total Visits to Children 1 to 5 years.	Total Visits to Ex- pectant Mothers.	Grand Total.
Kersal.....	49	146	646	778	61	1485
Mandley Park.....	60	208	999	1230	71	2300
Albert Park.....	102	285	964	1491	136	2591
Charlestown.....	66	211	1245	2089	107	3441
Regent.....	94	264	862	1647	143	2652
St. Thomas'.....	95	215	765	1177	105	2047
Weaste and Claremont.....	79	260	755	1546	92	2393
St. Paul's.....	79	214	1156	1838	139	3133
St. Matthias'.....	134	265	1021	1487	127	2635
Docks.....	82	211	848	1560	108	2516
Trinity.....	145	274	1496	3058	246	4800
Ordsall.....	91	212	1044	1438	98	2580
Seedley.....	38	88	327	737	49	1113
Langworthy.....	59	137	503	1292	64	1859
Crescent.....	104	286	1333	2537	138	4008
Special Visits.....	—	39	57	59	—	116
	1277	3315	14021	23964	1684	39669

#### Clerks.

A considerable amount of clerical work is involved in the Maternity and Child Welfare Scheme, the principal duties of the Clerks being as follows :—

To attend the Maternity and Child Welfare Clinics and Centres in order to record attendances, weights, etc., and to issue charts and cards in respect of patients.

To sell dried food to mothers and keep records relating thereto.

To administer the scheme for assisting necessitous persons.

To conduct correspondence, prepare reports, compile returns for the Ministry of Health, etc., and to keep such records and registers as are required in connection with the administration of the various Acts.

To do all clerical work in connection with the administration of the Municipal Maternity Home and Babies' Hospital.

### **Maternity and Child Welfare Centres.**

In December, 1933, by an arrangement with the Education Committee, a new Maternity and Child Welfare Clinic was opened at Police Street, Pendleton, in premises formerly occupied by the Ministry of Labour. This necessitated the closing of three of the existing centres, viz., John Street, Woodbine Street and Enys Street. There are, therefore, at present three Clinics and five Centres in the City, situated as follows :—

CLINICS. Municipal Buildings Regent Road.  
Teneriffe Street Schools, Broughton.  
Police Street, Pendleton.

CENTRES. Ordsall Centre, Landseer Street.  
10-12, Encombe Place.  
St. John's Schools, Langworthy Road.  
Congregational Church, Irlams-o'-th'-Height.  
Municipal Buildings, Regent Road

Much of the work of the Maternity and Child Welfare Department, has, hitherto, had to be carried on in very unsuitable premises, and the opening of the Police Street Clinic has, to a certain extent, remedied this state of affairs. Much however, remains to be done in the matter. It is most desirable to acquire suitable premises for the establishment of a Central Clinic in the Broughton area. The premises used at present are very unsuitable for the amount of work carried on there, both as regards situation and structure.

The central situation of the Police Street premises, and their adaptability for the work, have tended to make the number of patients attending highly satisfactory. The members of the John Street Committee of the Salford Mothers' Guild and Ladies' Public Health Society have transferred their activities to Police Street where they hold a sewing class once weekly, and serve dinners to expectant and nursing mothers daily. The new Clinic gives promise of being a most useful part of the Maternity and Child Welfare Scheme.

The Clinics are open daily and the Centres weekly, and the object of the staff is to make the work educational and preventive. Every child attending

is weighed weekly, and is thoroughly examined by the Medical Officer at its first attendance, and at regular monthly intervals until it is one year old. Medical examinations are then made every three months unless the child is receiving massage, sunlight, or other special treatment, when examinations are made more frequently.

The cases attending the Clinics and Centres are "followed up" by the Health Visitors, who help the mothers to carry out the instructions given.

### **Ante-Natal Clinics.**

Ante-natal Clinics are held on Thursday each week at Regent Road, Police Street and Teneriffe Street Centres. The number of patients attending these Clinics is gradually increasing, more cases being sent by the midwives who quite often accompany their patients to the Clinics, and are present at the examinations.

At these Clinics, pregnant women are examined and advised at their first attendance, and at regular monthly intervals until their confinement. In this way difficulties which might occur at confinement can be foreseen and avoided. Abnormal cases are seen more frequently, and when necessary, the patient is referred to a specialist or to a hospital for the appropriate treatment. Arrangements are made for suitable applicants to be admitted to the Municipal Maternity Home, and these cases are kept under special observation.

In addition to the two Clinics mentioned above, the Senior Medical Officer attends the Ante-natal Clinic held once monthly at the Royal District Nurses' Home. Cases attending this Clinic who require to be seen more often than once monthly are asked to attend the Clinic at Regent Road. The number of consultations at the District Nurses' Home, during 1933, was 429.

Arrangements have been made with the Senior Medical Officer of the Tuberculosis Department for the X-Ray examination of cases where the diagnosis is doubtful or difficult. This service has proved most helpful to the medical staff of the Department who much appreciate the co-operation of the Tuberculosis Officers.

Table C.W. 2, shows the number of attendances at the Clinics and Centres, and the number of consultations held during 1933.

TABLE C.W. 2.  
SHOWING NUMBER OF ATTENDANCES AND CONSULTATIONS AT CLINICS AND CENTRES DURING 1933.

CLINICS AND CENTRES.	New Cases.				Total Attendances.				Grand Total Attendances.	Consultations.			
	Children.		Mothers.		Children.		Mothers.			Children.		Mothers.	
	Under 1.	Over 1.	Expec- tant.	Nursing.	Under 1.	Over 1.	Expec- tant.	Nursing.		Under 1.	Over 1.	Expec- tant.	Nursing.
CLINICS—	422	320	566	30	3063	3922	2268	67	9320	1426	1605	2268	67
Regent Road.....	484	166	114	27	7012	2787	271	54	10124	2744	1283	246	54
Teneriffe Street.....	27	4	7	—	435	209	17	2	663	127	59	14	2
Police Street..... (3 weeks).													
CENTRES—	170	34	16	121	2819	1464	40	1842	6165	803	443	40	23
Ordsall.....	280	101	29	144	3874	2022	68	2673	8637	973	488	68	20
Encombe Place.....	185	23	28	110	4658	2175	80	1958	8871	990	492	80	44
John Street.....	336	59	4	210	5436	2813	7	3253	11509	1040	660	7	31
Seedley.....	153	94	13	86	2612	1898	31	1660	6201	766	498	31	14
Enys Street.....	234	116	5	125	2294	1605	5	1426	5330	770	641	5	5
Regent Road.....	168	27	6	104	2336	609	11	1449	4405	613	241	11	5
Woodbine Street.....	119	35	6	56	1869	629	6	1056	3560	638	280	6	15
The Height.....	2578	979	794	1013	36408	20133	2804	15440	74785	10890	6690	2776	280



**Massage Treatment.**

Massage treatment is given for Rickets and other Orthopædic conditions, at the Clinics and Centres. The results in all cases where the children are brought regularly, and for a sufficient length of time, are very satisfactory. The children attending for massage treatment are seen regularly by the Medical Officers. In cases where the mothers cease attending before the children are officially discharged, the Health Visitor investigates and re-invites them to attend. After they have been discharged, the mothers are asked to bring them regularly to the Child Welfare Centres in order that they may be kept under observation.

During the year 1933, the following cases have been dealt with :—

Clinics and Centres.	No. of Sessions held Weekly.	No. of Regular Cases.	No. of Casual Cases.	Cases Discharged Cured.	Total No. of Attendances.
<b>CLINICS—</b>					
Regent Road.....	10	158	111	38	4347
Teneriffe Street.....	3	92	51	15	1608
Police Street..... (3 weeks).	2	32	—	—	71
<b>CENTRES—</b>					
Encombe Place.....	1	43	36	7	688
Enys Street.....	2	55	39	15	1172
Ordsall.....	1	44	20	8	702
Seedley.....	2	72	81	17	1137
Babies' Hospital....	1	36	3	36	280
	22	532	341	136	10005

**Artificial Light Clinic.**

The work of this Clinic continues to be successful. The conditions for which artificial sunlight is administered are Rickets, Anæmia, Marasmus and Debility following acute infectious diseases. The results obtained are very gratifying, and only a few cases fail to respond to treatment. After discharge from the Sunlight Clinic each child is kept under observation by the Medical Officer at the Child Welfare Centre. In a few special cases, a second course of treatment has been found necessary. The treatment is administered by a competent operator under the supervision of the Medical Officer. All cases are examined regularly during the course of treatment.

The following are the Sunlight Clinic figures for the year 1933 :—

Individual cases.....	389
Total attendances.....	4145
Cases discharged.....	55
Very much improved.....	11
Much improved.....	12
Improved.....	32
No improvement owing to irregular attendance.....	165

### **Assisted Milk Scheme.**

Assistance has been given during the year to 1,581 applicants, free milk being granted to 1,545, and milk at part-payment to 36.

During the year, expectant and nursing mothers have been supplied with a brand of dried chocolate milk, instead of liquid milk, with the object of ensuring that the mother herself takes the food, and does not distribute it among other members of her family. The results of the experiment have proved most satisfactory.

Every case assisted is kept under careful observation and required to attend regularly at a Clinic or Centre. Regular investigation is made into the financial circumstances of all cases, during the period in which they are receiving assistance from the Corporation.

### **Sewing Classes.**

Sewing classes are held on one half day per week at four Centres, at which mothers are taught to make hygienic clothing and "thrift" garments, i.e., garments made from cast-off adult clothing, for their children. A Health Visitor attends each of these classes, and at three of the Centres help is given by voluntary workers who are members of the Ladies' Public Health Society.

### **Dinners for Expectant and Nursing Mothers.**

Arrangements are made with the Ladies' Public Health Society for the serving, on every full working day, of dinners for expectant and nursing mothers at the Ordsall, Encombe Place and Police Street Centres. One Health Visitor is in attendance at least one day per week at each Centre, the remainder of the work being carried on by voluntary assistance. Every expectant mother attending the Centres for dinners is asked to attend the Ante-natal Clinic regularly, and is kept under medical supervision.

### **Diphtheria Immunisation.**

During the year 1933, Immunisation Clinics have been established at three of the Child Welfare Centres. Intensive propaganda work has been carried on by the Health Visitors, who endeavour to persuade all parents with whom they come in contact, to have their children protected. The results have been more encouraging than in previous years, and it is hoped to make the existence of the Immunisation Clinics much more widely known in the future.

### **Home Helps.**

The applicants for Home Helps are usually known to the Maternity and Child Welfare Department through the Free Milk Scheme, and are consequently deserving cases. Home Helps are only supplied where there is absolutely no one to look after the home and other children whilst the mother is in bed. The Home Help attends at the home for ten days from the day of confinement, her hours being from 8 a.m. to 2 p.m., for which she receives from the Corporation 4s. 0d. per day, but provides her own food. Her duties are to look after the house and children generally, see older children off to school, and prepare meals for the mother and the rest of the family. She does not do the family wash, but may if necessary, wash baby clothes in readiness for the Midwife's visit. As far as possible Home Helps are supplied from the district in which the patient lives, for the sake of convenience, and in order to save travelling expenses. If it is necessary to supply a Home Help who lives some distance away from the patient, reasonable travelling expenses are allowed.

There are four Home Helps on the books at present, they being women who are particularly suited for the work, and who are well known to the Health Visitors as to character, reliability, etc.

The Scheme has been in operation since 1920, and has worked very satisfactorily. During the year 1933, 4 women have been employed as Home Helps and 9 necessitous cases have been assisted.

### **Children Act, 1908, and Children and Young Persons Act, 1932.**

The Children Act, 1908 has been amended by the passing of The Children and Young Persons Act, 1932 which came into force on January 1st, 1933.

The chief alterations in the administration of the Act are as follows :—

1. The age, under which the reception of children for reward must be registered, is now raised from seven to nine years. Local Authorities are instructed to replace on their registers any notifiable child who has not attained the age of nine years.
2. Notification of the reception of a child, instead of being given within 48 hours after the reception, must now be given not less than seven days before its reception.
3. Notification of change of residence must now be given seven days prior to the change instead of being within 48 hours.
4. Notification of death must now be given with 24 hours instead of within 48 hours.

5. The Act now deems an undertaking to be "for reward" if there is any payment, or gift of money, or money's worth, or any promise to pay or give money or money's worth, irrespective of whether there is any intention of making a profit.

The following is a report of work done in the administration of the Acts during 1933 :—

Cases on Register at end of 1932 .....	40
„ re-registered as required by Children and Young Persons Act, 1932.....	11
New Registrations during 1933 .....	32
Children removed from Register .....	27

**Including—**

Children removed from Salford .....	20
„ adopted without reward .....	3
„ attained age of nine years.....	3
„ returned to parents.....	1
Children remaining on Register.....	56
Total Visits paid during 1933.....	611

**Investigations *re* Proposed Admissions to Hope Hospital Maternity Department.**

With a view to the elimination of unsuitable cases, it has been found necessary to investigate the circumstances of cases who have applied for admission.

This work is being done by the Health Visitors, who visit each case and make inquiries as to the home accommodation and financial circumstances in each case.

The results of their investigations are communicated to the Public Assistance Officer, and to the Medical Superintendent at Hope Hospital. From August to December, 1933, 355 cases were investigated.

**Nursery Classes and Nursery School.**

During the year, the Senior Medical Officer has regularly visited, and examined the children attending the Nursery Classes at nine Elementary Schools in the City, and also inspected the children attending the Salford Nursery School once each month.

TABLE C.W. 3.—NOTIFICATION OF BIRTHS.

Wards.	Mid- wives.	LIVE BIRTHS NOTIFIED BY						Total live births notified.	Live births not notified.	Still- births notified.	Still- births notified by St. Mary's
		Medical Practi- tioners.	Other Towns.	Crump- sall and St. Mary's Hospital.	Municipal Maternity Home.	Hope Hospital.					
Kersal.....	61	29	5	12	14	22	143	6	5	3	
Mandley Park.....	106	19	4	26	26	32	213	4	4	—	
Albert Park.....	139	33	5	24	27	39	267	1	10	3	
Charlestown.....	137	19	5	6	12	32	211	—	9	3	
St. Matthias'.....	162	33	—	14	15	37	261	—	13	1	
Trinity.....	161	43	1	22	12	42	281	—	13	3	
St. Thomas'.....	123	8	1	3	21	49	205	—	13	—	
Claremont.....	35	32	12	2	17	8	106	5	2	—	
St. Paul's.....	147	14	3	3	13	41	221	2	3	—	
Seedley.....	35	13	1	1	42	14	106	2	3	1	
Langworthy.....	81	7	3	4	23	25	143	2	6	—	
Weaste.....	95	11	10	2	13	32	163	—	12	2	
Regent.....	134	33	5	22	20	52	266	2	14	—	
Docks.....	100	10	6	4	26	35	181	2	10	—	
Crescent.....	157	39	—	12	26	64	298	—	24	—	
Ordsall Park.....	139	7	—	4	18	38	206	1	16	—	
	1,812	350	61	161	325	562	3,271	27	157	16	



### Municipal Maternity Home and Babies' Hospital.

The Hospital has accommodation for 10 maternity cases and 16 children.

The Staff consists of the Medical Officer, Matron, Sister, four Staff Nurses and eight Probationer Nurses. The Hospital is recognised by the Central Midwives Board as a training school for midwives. During the year 1933, six pupils were successful in obtaining their Diploma.

During a period of approximately three months, when Hope Hospital Maternity Department was closed in consequence of puerperal infection, the babies in the Rickets Ward were discharged and the Ward adapted for the reception of emergency maternity cases. 52 of these cases were admitted.

All cases for the Maternity Home are booked at the Regent Road Ante-natal Clinic, where they are required to attend regularly. There is no difficulty in persuading patients to attend this Clinic and as a result prompt treatment is available for any abnormalities which are found, thus avoiding serious complications at the time of confinement.

When they are discharged from the Home, patients are invited to attend the Child Welfare Centres where they may receive advice regarding their own health and that of their babies.

#### MATERNITY DEPARTMENT.

Statistics relating to this Department are as follows :—

##### ADMISSIONS.

For special ante-natal treatment.....	19
For Confinement.....	334
Referred to Hope Hospital.....	1
Born before arrival at Hope Hospital.....	1
BIRTHS.....	325
STILLBIRTHS.....	10
DEATHS OF INFANTS.....	9
CASES WHERE MEDICAL ASSISTANCE WAS REQUIRED.....	109

#### BABIES' DEPARTMENT.

The 16 beds for children are divided into 10 beds for cases of Rickets, and six beds for cases of Marasmus and Nutritional Disorders. These cases require a stay of three to four months in Hospital for the treatment to be successful, and only a limited number can, therefore, be admitted in the course of a year. The results obtained are very satisfactory. A Sunlight Lamp is used for the treatment of Rickets and Marasmus. Clinical treatment is supplemented by natural sunlight and fresh air. In the summer months it is often possible to keep the children out of doors all day. When a child is discharged from Hospital, the mother is given written instructions as to feeding, etc.

ADMISSIONS.

The number of cases admitted during the year 1933 was 49, disposed as follows :—

- 20 Rickets.
- 9 Malnutrition.
- 16 Marasmus.
- 1 Tubercular Peritonitis.
- 3 Prematurity.

DISCHARGES.

The number of cases discharged during the year 1933 was 47. These were as follows :—

*Cured.*

- 16 Rickets.
- 17 Marasmus.
- 1 Tubercular Peritonitis (apparently cured).
- 1 Prematurity and Marasmus.
- 1 Empyema and Malnutrition.

*Much Improved.*

- 9 Rickets.

*No Improvement.*

- 2 Rickets (removed at parents' request within one week of admission).

*Deaths.*

The number of deaths during 1933 was two, as follows :—

- 1 Marasmus and acute Broncho-Pneumonia.
- 1 Prematurity and Marasmus.

**Supervision of Midwives.**

There are 67 midwives on the register in Salford: 9 are connected with Public Institutions, leaving 58 midwives practising in Salford, of whom 47 reside within the City.

The midwives are regularly visited, and their books, instruments, etc., inspected by the Assistant Inspector of Midwives under the supervision of the Senior Medical Officer. During the year 1933, 400 visits were paid to midwives, and in addition, 805 miscellaneous visits were paid, making a total of 1,205.

From time to time meetings are held at the Health Office, where midwives may discuss with the Medical Officer any difficulties which may arise in their practices, and where the Medical Officer brings to their notice any points which she wishes them to observe.

During the year 1933, 1,773 births were attended by midwives alone, and 206 cases were attended by doctors with midwives acting as maternity nurses.

Three midwives removed from the district in 1933, two of these being from the District Nurses' Home; two changed their addresses, four midwives were newly registered, and one died.

### Notifications.

Under the Midwives Act, 1902, midwives are required to make the following notifications to the Local Supervising Authority :—

1. Each time they require to call in a Medical Practitioner.
2. Any contact with infectious disease other than puerperal fever or puerperal pyrexia.
3. Stillbirths.
4. Deaths of infant or mother.
5. Substitution of artificial feeding for breast feeding.

### Medical Assistance.

During the year 857 notifications of a midwife having sent for medical assistance were received, the causes being as follows :—

Abnormal Presentations .....	70
Deformed Pelvis.....	—
Ante-partum Hæmorrhage.....	29
Placenta Praevia.....	4
Post-partum Hæmorrhage.....	16
Uterine Inertia.....	102
Obstructed Labour, or requiring instrumental assistance.	170
Retained Placenta or Membranes .....	27
Ruptured Perineum.....	179
Rise of Temperature.....	14
Eclampsia.....	2
Premature Birth.....	30
Miscarriage and Abortion.....	9
Inflammation of Eyes .....	89
Other causes relating to Mother.....	64
Other causes relating to Child .....	52
Total.....	<u>857</u>

### Contact with Infectious Disease.

Five notifications of contact with infectious disease were received from midwives during 1933. Two on account of having been in contact with Pemphigus Neonatorum, and three in connection with other infections. In each case the midwife was disinfected at the Mode Wheel Disinfecting Station.

**Investigation of Stillbirths.**

Sixty-eight Stillbirths were notified by midwives during the year. Each case was thoroughly investigated by the Assistant Inspector of Midwives, and found to be as follows :—

- 10 Abnormal Presentation.
- 4 Premature Births.
- 2 Spina Bifida and other deformities.
- 3 With history of previous stillbirth.
- 6 Born before arrival of help. (Three Macerated).
- 11 Macerated foetus.
- 2 Maternal Shock.
- 2 Ante-partum hæmorrhage.
- 2 Illness of mother.
- 2 Hydrocephalus.
- 1 Anencephalus.
- 9 Difficult Labour.
- 2 Asphyxia neonatorum. (Cord several times round child's neck).
- 4 Prolonged Labour.
- 1 Where mother had suffered as a result of an accident.
- 3 Placenta Praevia.
- 4 Albuminuria.

**Investigation of Infant Deaths.**

Thirty-three Notifications of infant deaths were received, the causes of death being as follows :—

- 13 Prematurity and debility.
- 4 Prematurity and cardiac failure.
- 2 Congenital malformation.
- 3 Convulsions.
- 1 Injuries from parturition.
- 3 Asphyxia pallida.
- 4 Died before medical assistance could be obtained.
- 3 Congenital heart disease.

Inquests were held in connection with the four cases where the baby died before medical assistance could be obtained. In all four cases the Coroner returned a verdict of "Death from natural causes." Where necessary the Assistant Inspector of Midwives attends the inquest.

**Artificial Feeding of Infants.**

Twenty-five Notifications of the substitution of artificial feeding for breast feeding of infants were received from midwives during the year 1933.

**Public Health (Notification of Puerperal Fever and Puerperal Pyrexia Regulations), 1926 and 1928.**

**PUERPERAL FEVER.** 24 cases of Puerperal Fever were notified during the year.

- 11 cases occurred in the practice of Midwives.
- 7     "             "     Hope Hospital.
- 3     "             "     The Municipal Maternity Home.
- 3     "             "     the practice of Doctors.

All the cases were thoroughly investigated by the Inspector of Midwives, and every precaution taken to prevent the spread of the disease. When the case occurs in the practice of a midwife the patient is removed to Ladywell Sanatorium, and her room and bedding disinfected. The midwife is interviewed and particulars taken of the case, and also a résumé of the work she has done since she last saw the infected person; she is temporarily suspended in order that she may go to the Disinfecting Station to have her person, clothing, bag and instruments disinfected. Other cases which the midwife may have been attending at the same time are visited by the Inspector. The midwife is warned to watch these cases carefully, and if she is at all anxious, to send for medical help without delay.

In a case of suspected sepsis, the midwife sends for the doctor and reports at the Health Offices. She is temporarily suspended until she hears the Doctor's decision. As an alternative, she may devote herself to one patient and pass on her other duties to another midwife.

In cases of septicæmia, the Ministry of Health have requested that swabs be taken from the nose and throat of the patient and those who were most closely in contact with her during confinement in order to determine the bacteriological nature of the patient's infection. This has been done in all cases where it has been possible.

**PUERPERAL PYREXIA.** During the year 34 cases were notified in the City:—

25 cases occurred in Hope Hospital, two of these having been confined at home.		
7	„ „	in the practices of midwives, four were removed to Hospital.
1	„ „	in the Municipal Maternity Home, and was removed to Ladywell Sanatorium.
1	„ „	in St. Mary's Hospital, Manchester, and was removed to Ladywell Sanatorium.

As the regulations required prompt notification of any rise of temperature, special attention is quickly available for these cases, and if necessary, a consultant may be called in. This was done in one case during 1933.

Bacteriological examinations of lochia and blood are made on request at the Municipal Laboratory.

The same precautions are taken with Puerperal Pyrexia as with Puerperal Fever, the disinfection and suspension of midwives being carried out in a similar manner.



**Public Health (Ophthalmia Neonatorum) Regulations, 1926 and 1928.**

The number of cases of Ophthalmia Neonatorum notified under the above regulations during 1933, was 17, of these :—

- 12 occurred in the practice of midwives.
- 2 were notified from the Royal Eye Hospital, Manchester.
- 3 were notified from Hope Hospital.

In 14 cases, both eyes were affected, and in three cases one eye was affected. Four cases were classed as severe, two moderately severe, four slight, and seven very slight. Sixteen cases recovered without injury to sight and one case was blind in one eye.

All notified cases of ophthalmia neonatorum are visited by the Assistant Inspector of Midwives, and, where necessary, the case is referred to the Royal District Nurses' Home, and a nurse sent to carry out treatment under doctor's orders.

During 1933, 89 cases of discharging eyes were notified by midwives. All cases were visited regularly until the condition had cleared.

**Infectious Diseases Notification Act, 1889,  
Pemphigus Neonatorum.**

There has been a large decrease in the number of cases of this disease notified during the year 1933, the number being 7, 14 less than in the previous year.

- 3 of these cases were born in Hope Hospital.
- 2 occurred in the practices of midwives.
- 1 occurred in St. Mary's Hospital.
- 1 occurred in a private nursing home.

The age of onset varied from four days to three weeks. Every precaution was taken to prevent the spread of the disease, and none of the cases proved fatal.

**Nursing Homes Registration Act, 1927.**

One Nursing Home has been closed during the year. There are now seven Nursing Homes registered in the City ; four of these are Maternity Homes, two Medical and Surgical Homes, and one Maternity and Medical.

These Homes are inspected regularly by the Senior Medical Officer, assisted by the Inspector of Midwives.

### Midwives Act, 1918.

Under the Midwives Act, 1918, section 14 (1), the Local Authority is authorised to pay the fees of registered medical practitioners called in by midwives in cases of emergency, and where possible, recover the fee from the patient or her husband. This ensures that no lying-in women need be without the services of a qualified medical attendant, however poor her circumstances may be. The doctors' accounts are checked and paid in accordance with the Scale of Fees prescribed by the Ministry of Health.

### Investigation of Maternal Deaths.

All maternal deaths occurring in the City are investigated in accordance with instructions received from the Ministry of Health (Circular 116, dated 11th December, 1930). Homes, doctors and midwives are visited, thorough inquiries made into all the circumstances surrounding the death, and reports thereon sent to the Ministry of Health.

During 1933, 24 maternal deaths were investigated, and the causes found to be as follows :—

- 1 Cardiac failure and Post-partum Hæmorrhage.
- 1 Influenzal Myocarditis.
- 1 Pulmonary Abscess.
- 1 Post Operative Shock.
- 2 Cardiac Failure (Cæsarean Section).
- 7 Puerperal Septicæmia.
- 1 Intra-partum Ligamentary Hæmorrhage (Cæsarean Section).
- 2 Ante-partum Hæmorrhage. (Placenta Prævia).
- 1 Ante-partum Hæmorrhage.
- 1 Rupture of Extra Uterine Gestation
- 1 Acute Peritonitis. (Cæsarean Section).
- 2 Rupture of Uterus.
- 1 Acute Yellow Atrophy of Liver.
- 2 Septic Abortion.

## SECTION VIII.

# Hope Hospital.

The internal condition and arrangements of the Hospital remained largely unchanged during 1933, with the result that comparative overcrowding of practically all wards continued.

The turnover of patients is high in spite of the fact that a considerable number of chronic medical and mental patients are continuously under treatment. In 1933 nearly 75 per cent. of the patients admitted were discharged within four weeks.

The demands on the various departments of the Hospital have been up to the average. Notable increases in the numbers treated in the X-Ray and in the Out-Patient Department have occurred. The work in the Pathological Laboratory continues to show an increase.

The following table gives some idea of the work done in the various departments. It refers to in-patients only (the patients of the Maternity Ward, Mental Wards, Infectious Children's Wards, and Male Phthisical Wards are not included).

Department.	No. of beds available.	No. of patients		Mortality.	Surgical Operations.
		No. of beds treated.	per bed, per annum.		
Surgical.....	162	2,215	14	4%	53%
Medical.....	100	1,183	12	12%	—
Mixed* .....	152	1,852	12	17%	10%
Children.....	146	1,881	12	6%	35%
Chronic.....	162	664	4	24%	—
Totals.....	772	7,795 (Aver.)	10	12%	—

\* These wards contain medical and/or surgical cases along with a certain proportion of chronic patients.

**MEDICAL WARDS.** In the Medical Wards of the Hospital the greatest attention has been paid to pneumonia, and investigations as to the efficacy of serum treatment have been continued. Since the commencement of the

investigations, valuable data have been collected which have proved to be useful in anticipating complications which may arise in the course of the disease and which will be very helpful in treatment when anti-pneumococcal serum is available for use in the Hospital.

During the year it was decided for the first time to use the Electrocardiograph for the benefit of out-patients as well as in-patients.

The Medical Out-Patient Department continues to play an important part in the activity of the Hospital. New patients numbered 241. Most of these cases were sent in by their doctors (1) for some special form of treatment available in the Hospital: (2) for medicine: or (3) because the doctor desired help in diagnosis. There were 1,473 attendances by old patients. Many of these had been in-patients who, after discharge from Hospital, required the continuance of some form of special treatment or required to be kept under observation.

**SURGICAL WARDS AND OPERATING THEATRE.**—The number of patients subjected to surgical operations under anæsthesia has again increased. In 1933, 2,201 operations were undertaken, as compared with 2,186 in 1932. Among this number were 435 abdominal sections.

There has been a striking increase in the use of anæsthetics other than ether and chloroform. The following table indicates the number of occasions on which each form of anæsthetic was employed:—

Ether and or chloroform.....	1,440
Spinal anæsthesia.....	598
Evipan.....	63
Gas and oxygen.....	26
Infiltration .....	73
Avertin.....	1
	<hr/>
	2,201
	<hr/>

**CHILDREN'S AND INFANTS' WARDS.**—During 1933 it became possible to reduce the overcrowding in the Children's and Infants' Wards by taking over Ward G.2. as a unit for children between the ages of 18 months and 5 years. The year's medical work in the Infants' Ward showed a decrease in mortality, which fell from 23 per cent. in 1932 to 17 per cent. in 1933.

**MATERNITY DEPARTMENT.**—This Department has passed through a very critical experience during 1933. In the early part of the year cases of puerperal pyrexia began to occur with some frequency and with an increasing virulence. Between March and April 14 cases of Puerperal Pyrexia occurred, three of whom subsequently developed Puerperal Septicæmia. Two of these

cases terminated fatally. On the 17th April the Maternity Ward (A.3.) was closed down. No further cases were admitted there and the In-Patients remaining on that date were discharged as soon as possible. All known patients in the ante-natal clinic were circularised and asked to make their own arrangements to be confined at their homes if possible. Those who could not do so were confined by arrangement at the Municipal Maternity Hospital, or at St. Mary's Hospital, or in a local Nursing Home. A small emergency maternity unit was established in N.E.3 to accommodate patients presenting themselves at the Hospital who required immediate treatment. Dr. Cameron, of the Ministry of Health, inspected the Maternity Wards in June and again in August. As a result of consultations with her, certain improvements in A.3 Ward were recommended to the Committee and were carried out. A new floor was laid in the Ward. Additional sterilising apparatus for bowls and bedpans was installed, and a room fitted out for the bathing of babies. A system of home visitation of all expectant mothers attending the ante-natal clinic was initiated in order that, where no medical contra-indication existed, and the home conditions were satisfactory, cases might be recommended to arrange for confinement at their own homes. In this way it is hoped that the pressure on the Hospital Maternity accommodation will be mitigated. The alterations in A.3 Ward being completed, that ward was re-opened for the admission of cases on 8th November.

During the interim the temporary Maternity Ward on N.E.3 had to be used for more than emergency cases and for a time a small additional "potentially septic" unit had to be opened on N.E.4 Ward. From 17th April to 8th November, 197 patients were confined in the temporary Maternity Ward.

After the re-opening of A.3 Ward, a small unit on N.E.3 remained in use for "potentially septic" cases.

The maternal mortality for 1933 was 1.76 per cent. as compared with 1.4 per cent. for 1932. This percentage increase was not brought about by the outbreak of Puerperal Pyrexia and Septicæmia reported on, but was caused by an unprecedented number of seriously complicated confinement cases which occurred in the latter part of the year.

Dr. Hunter, already Visiting Gynæcologist, was in June appointed Visiting Obstetrician in addition. Since that date Dr. Hunter has regularly visited the Maternity Wards and the ante-natal clinic and he has been specially called in in consultation regarding five cases in labour, and 40 cases at the ante-natal clinic. Dr. Hunter, since June, personally conducted two instrumental deliveries and he has performed 6 Cæsarian sections.

During the latter four months of 1933 a beginning has been made with the organisation of a post-natal clinic and mothers are requested to attend one month after discharge from the Maternity Ward. The post-natal clinic is likely to become a valuable asset to the Department in course of time.



OUT-PATIENT DEPARTMENT.—The Out-Patient Department continues to prove invaluable. The work of this Department may be divided into the following headings :—

- (1) Treatment of medical emergencies and surgical casualties and accidents. Surgical casualties have shown a distinct tendency to increase.
- (2) After-care, *i.e.*, the observation of progress and checking up the results of In-Patient treatment after the patient has been discharged.
- (3) The examination of new patients sent up by Practitioners in Salford. Many of these do not require admission as In-Patients but can have various methods of diagnosis and treatment applied as Out-Patients.

Both these phases of the work prevent to an appreciable extent over-pressure on the In-Patient accommodation. On the one hand patients can be discharged sooner from Hospital, when it is known that they can remain under periodical observation at the Out-Patient Department. On the other hand patients can often be treated from the beginning as Out-Patients who would under the old arrangements have been admitted to the Wards. Also, the examination at the Out-Patient Department permits of regular arrangements for the admission of patients on a specified date—in such a way for instance that a case requiring operation is admitted on the day before the operation and does not occupy a bed unnecessarily while waiting for the appropriate day. When necessary, as is often the case with patients requiring removal of tonsils and adenoids, they are put on a waiting list and only admitted immediately before the operating day allocated to that condition.

The Out-Patient Department is run in close relation with the Massage, Electro-Therapeutic, the X-Ray and Ultra-Violet Rays Units and the Electrocardiograph, and patients are referred to these departments for treatment and diagnosis.

The Out-Patient Clinics are all conducted by senior experienced members of the staff. The results of examinations and diagnosis are communicated to the Practitioner sending the case up.

The Clinics are arranged as follows :—

- |                       |                                   |
|-----------------------|-----------------------------------|
| 1. Medical .....      | Tuesday and Friday forenoon.      |
| 2. Surgical.....      | Monday and Thursday forenoon.     |
| 3. Ante-natal.....    | Wednesday forenoon.               |
| 4. Orthopædics.....   | Monday afternoon.                 |
| 5. Gynæcological..... | Wednesday forenoon (in A.1 Ward). |

**PATHOLOGICAL LABORATORY.**—The newly equipped Laboratory was opened in May. This has been established in a large room in the new Hospital building which was originally intended for the installation of a Deep X-Ray Therapy Plant. It is roomy and gives adequate bench-space for the various branches of the work with facilities for sterilisation, storage and the making up of culture media.

The pathological work again shows a considerable increase. Specimens examined have increased from 5,173 in 1932 to 6,982 in 1933.

**STATISTICS.**—Complete statistics for the past twenty years are now available and the following table shows graphically the increases in the numbers of patients treated. The figures given are the averages for each of the 4 five-year periods from 1914 to 1933.

	Percentage of					
	Admissions.	Births.	Deaths.	Operations.	Mortality.	Operations.
1914-1918.....	1,671	7	432	154	25%	9%
1919-1923.....	3,118	162	595	285	18%	8%
1924-1928.....	5,486	361	953	848	16%	16%
1929-1933.....	7,915	714	1,081	1,920	12%	25%

### WORK OF THE HOSPITAL DURING 1933.

(The comparative figures for 1928-1932 are given).

#### 1. GENERAL.

	Average					
	1928-1931.		1932.		1933.	
Remaining in Hospital under treatment at close of year.....	928		793		950	
Admissions.....	7,383		8,521		8,031	
Births.....	682		843		615	
Totals.....	8,993		10,157		9,596	
	s.	d.	s.	d.	s.	d.
Average cost per patient per week.....	39	10	55	4	54	9
Discharges during the year.....	6,841		8,156		7,592	
Deaths.....	1,049		1,052		1,084	
Mortality.....	11.4%		10.3%		11.3%	

## 2. SURGICAL OPERATIONS.

(a) Number of patients.....	1,572	2,186	2,201
(b) Number of Operations.....	1,691	2,272	2,269

*Operators.*

Medical Superintendent.....	726	477	438
Resident Staff.....	731	1,439	1,403
Visiting Surgeons.....	118	270	360

*Anæsthetists.*

Dr. Ghosh.....	575	522	610
Resident Staff.....	995	1,664	1,582
Visiting Anæsthetists.....	1	—	9

*Classification of Operations.*

	1930.	1931.	1932.	1933.
1. Mouth (including teeth).....	19	22	30	33
2. Abscesses (various) .....	69	71	103	113
3. Gynæcological.....	413	404	437	455
4. Tonsils and Adenoids.....	612	628	723	587
5. Bones and Joints.....	113	177	192	214
6. Stomach and Intestines.....	72	60	58	68
7. Liver and Gall Bladder.....	19	14	15	11
8. Appendix.....	217	262	234	263
9. Hernia.....	133	128	130	135
10. Genito-Urinary.....	47	71	88	81
11. Hæmorrhoids.....	44	77	58	62
12. Breast.....	9	15	10	21
13. Ear.....	11	10	8	24
14. Empyema.....	9	33	26	43
15. Nose.....	6	11	11	8
16. Eye .....	—	2	1	2
17. Brain.....	—	1	2	6
18. Thyroid Gland.....	—	2	2	1
19. Various.....	14	46	58	74
Totals.....	1,807	2,034	2,186	2,201

Among the 2,201 operations there were 435 abdominal sections including 16 Cæsarians.

## 3. MATERNITY DEPARTMENT.

	1933.		1932.		1931.	
	Total.	Per cent.	Total.	Per cent.	Total.	Per cent.
Total Number of Cases....	615		843		809	
Instrument and Manipulative Deliveries .....	33		32		38	
Craniotomy .....	6		3		—	
Cæsarian Sections.....	16		9		6	
Induction of Labour :—						
Bougie.....	15		30		28	
Quinine .....	9		9		4	
Hæmorrhages.....	23		31		22	
Albuminuria of Pregnancy	20		14		30	
Eclampsia.....	5		2		4	
Puerperal Septicæmia.....	3	0.48	3	0.36	4	0.49
Maternal Deaths.....	11	1.7	12	1.4	9	1.1
Pemphigus.....	3		15		10	
Ophthalmia Neonatorum.	3		3		1	
Stillbirths.....	58	10.0	75	8.7	60	7.4
Infantile Deaths (up to 10 days).....	24	4.3	28	3.5	19	2.3
Plural Births :—						
Twins.....	10		13		5	
Triplets .....	—		—		1	
Ante-natal Attendances ..	4,127		5,578		4,943	
Ante-natal New Cases.....	554		774		755	
Percentage of Cases who had attended Ante-Natal Clinic .....		88.9		91.8		93.4

## 4. X-RAY DEPARTMENT.

	Average		
	1928-1931.	1932.	1933.
Number of Patients.....	1,740	2,908	3,298

## 5. DEPARTMENT OF MASSAGE AND ELECTRO-THERAPEUTICS.

(a) *Massage.*

	Average		
	1928-1931.	1932.	1933.
Number of In-Patients.....	271	379	300
Number of Out-Patients.....	118	223	221
Total.....	389	602	521

## Number of Treatments—

In-Patients.....	8,216	9,588	9,035
Out-Patients.....	2,983	5,165	5,021
	11,199	14,753	14,056

(b) *Electro-Therapeutics.*

In-Patients.....	63	103	93
Out-Patients.....	46	92	94
Total.....	109	195	187

## Number of Treatments—

In-Patients.....	2,156	3,099	2,919
Out-Patients.....	1,424	3,000	2,832
Total.....	3,580	6,099	5,751

## Average

(c) <i>Ultra-violet Radiation.</i>	1928-1931.	1932.	1933.
Number of Treatments .....	1,826	2,664	1,102

## 6. OUT-PATIENTS' DEPARTMENT.

Dressings and Treatment.....	6,254	9,064	11,844
Consultations, etc. ....	2,645	2,487	2,182
Total.....	8,899	11,551	14,026

## 7. PATHOLOGICAL DEPARTMENT.

	1930.	1931.	1932.	1933.
Autopsies conducted.....	127	143	196	222
Specimens examined.....	2,487	4,330	5,173	6,982

## 8. MENTAL WARDS.

	Male.		Female.		Total.	
	A.	1933.	A.	1933.	A.	1933.
Patients under treatment on 1st January....	71	65	112	108	183	173
Patients transferred from Asylum.....	—	2	—	—	—	2
Patients admitted during the year.....	175	182	171	164	346	346
Total.....	246	249	283	272	529	521



ADMISSIONS.						
	Male.		Female.		Total	
	A.	1933.	A.	1933.	A.	1933.
From Hospital Wards.....	33	51	36	44	342	348
From Outside.....	138	133	135	120		
On 3-day Order.....	136	119	135	114	271	233
On 14-day M.O.'s Order.....	38	12	36	6	74	18
On 14-day Justice's Order.....	—	—	—	—	—	—
Released c/o friends.....	67	69	49	38	116	107
Transfers to Mental Hospital.....	44	42	36	45	80	87
Released to other wards.....	41	38	51	35	92	73
Released to other Institutions.....	1	3	2	5	3	8
Discharged during the year.....	153	152	138	123	291	275
Deaths during the year.....	29	30	33	26	62	56

NOTE.—The heading "A." is the average for 1931-1932.

TABLE SHOWING INCREASE OF WORK OF THE HOSPITAL SINCE 1914.

Year.	Admissions.	Births.	Discharges.	Deaths.	Average Daily No. of Patients.	Operations.
1914	2,728	12	2,135	591	749	149
1915	1,632	4	1,393	491	514	160
1916	1,330	—	941	353	439	175
1917	1,263	3	1,058	335	407	145
1918	1,402	16	1,104	391	303	144
1919	1,559	7	1,056	348	339	107
1920	2,516	64	1,736	451	689	163
1921	3,335	227	2,899	617	858	332
1922	3,720	263	3,272	745	888	395
1923	4,463	250	3,749	815	870	430
1924	4,416	182	3,742	922	811	523
1925	5,315	293	4,292	1,015	868	802
1926	5,471	366	4,839	903	943	882
1927	5,801	409	5,125	1,003	943	960
1928	6,430	559	5,545	926	960	1,076
1929	7,477	674	6,936	1,141	918	1,403
1930	7,583	685	7,150	1,038	969	1,807
1931	7,963	812	7,762	1,093	919	2,004
1932	8,521	843	8,156	1,052	961	2,186
1933	8,031	615	7,572	1,084	940	2,201



